

**MENA Higher Education Privatization's Unintended Effect on MENA Economies
and the MENA Refugee Crisis**

*How MENA higher education privatization exacerbated the MENA labor market skills
mismatch, led MENA nations to restrict refugees from accessing formal labor markets,
and pushed MENA Refugees to re-seek asylum in Europe*

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Abstract

This paper analyzes the Middle Eastern and North African (MENA) economic landscape, in particular the MENA highly-educated labor market, in the years preceding the MENA and European Refugee Crises to discern what public policies and migration push factors encouraged MENA refugees to re-seek asylum in Europe. I use econometric analysis to analyze World Bank Development Indicators, Middle Eastern University Data, Anabin University Data, World Bank Migration Data, and World Bank Remittance Data.

I find that MENA higher education privatization significantly expanded the number of MENA universities, lowered the quality of MENA higher education, created far more college graduates than jobs requiring higher education, helped create the MENA labor market skills mismatch, and furthered regional unemployment— especially for youth and college graduates. I find that high MENA unemployment has encouraged displaced MENA refugees, especially those with college degrees, to seek asylum outside of the MENA region and in Europe. The ramifications of my findings suggest that 1) MENA refugees re-seek asylum in Europe for formal labor opportunities, 2) MENA refugees disproportionately possess college degrees, and 3) that the quality of MENA refugees' college degrees may often fall below Western standards.

1. Introduction

In the late 1980s and early 1990's, in order to expand higher education opportunities without expanding state expenditures, Lebanon, Jordan, Syria, Egypt, and the Gulf states began allowing private, for-profit universities.^{1,2} By 2010, private for-profit universities accounted for 70% of new MENA universities.³ The expansion of private for-profit universities vastly expanded university access. However, disproportionately wealthier and lower-achieving students enrolled in private for-profit universities.⁴ Many scholars also question the quality and economic consequences of MENA private universities. Manar Sabry of Buffalo University noted that, "the main problem with the establishment of private universities in Arab countries is that they are mostly for-profit and many have been established without adequate planning, clear policy or regulations, funds or even qualified staff" and "they neither offered innovative nor were they responsive to the needs of the job market."⁵

While MENA private universities expanded, MENA economies stagnated. A 2012 IMF study found that the MENA region possessed the highest unemployment rates and the highest youth unemployment— over 25%— relative to other world regions.

Higher education levels did not significantly reduce unemployment likelihoods. And, the

¹ The Middle East possesses three types of universities: free public universities, a small number of private non-profit universities, and private for-profit universities.

² Hanafi, Sari. "Universities in the Arab East: A Crisis of Privatization and Internationalization." *Universities in Crisis* 28, 2010. Accessed April 16, 2016. <http://www.isa-sociology.org/universities-in-crisis/?p=388>.

³ Hanafi. *Universities in the Arab East: A Crisis of Privatization and Internationalization*. 2010.

⁴ Buckner, Elizabeth. "Privatization of Higher Education in Egypt." Elizabeth Buckner. January 03, 2012. Accessed April 16, 2016. <https://elizabethbuckner.com/research/privatization-of-higher-education-in-egypt/>.

⁵ Sawahel, Wagdy. "ARAB STATES: Quality Low despite Privatisation Boom - University World News." RSS. November 9, 2011. Accessed April 16, 2016. <http://www.universityworldnews.com/article.php?story=20111109132240914>.

2012 IMF report concluded that MENA nations continue to face a severe labor market skills mismatch because of regional inability to create high-skilled jobs, a four-fold increase in average years of schooling, and education institutions that “fail to produce graduates with needed skills.”⁶

These stagnate MENA economies failed to integrate MENA refugee populations when conflicts erupted in Syria, Iraq, and Afghanistan after 2011. Jordan, Lebanon, Egypt, and Turkey (until 2016) effectively prohibited refugees from entering the formal labor market. These restrictions, and other refugee tribulations, led more than one million refugees⁷ and migrants⁸ to leave the MENA region and re-seek asylum in Europe in 2015 alone— a unique migration due to its size and the cultural differences of European receiving nations.⁹ 84% of Mediterranean Sea arrivals in 2016 came from Syria, Afghanistan, or Iraq.¹⁰ These arriving MENA nationalities rarely spoke the native languages of the top three asylum application receiving nations—Germany, Hungary, and Sweden. And, the female Labor Force Participation Rates (LFP) in 2010 for top refugee sending nations— Syria at 13%, Iraq at 15%, and Afghanistan at 15%— fell well below the EU’s female Labor Force Participation average of 50%.¹¹

⁶ Furceri et al. *Youth Unemployment in the MENA*. 2012.

⁷ In the 1951 Refugee Convention, a refugee is a person who meets three characteristics:

1. They are outside their country of origin or outside the country of their former habitual residence.
2. They are unable or unwilling to avail themselves of the protection of that country owing to a well-founded fear of being persecuted.
3. The persecution feared is based on at least one of five grounds: race, religion, nationality, membership of a particular social group, or political opinion.

⁸ The Oxford English Dictionary defines a migrant as “one who moves, either temporarily or permanently, from one place, area or co

⁹ Daniel Esras and Kelly Namia. "Irregular Migrant, Refugee Arrivals in Europe Top One Million in 2015: IOM." International Organization for Migration Online, December 22, 2015. Available at: <https://www.iom.int/news/irregular-migrant-refugee-arrivals-europe-top-one-million-2015-iom>.

¹⁰ UNHCR. "UNHCR Refugees/Migrants Emergency Response - Mediterranean." UNHCR Refugees/Migrants Emergency Response - Mediterranean. February 11, 2016. Accessed February 11, 2016. <http://data.unhcr.org/mediterranean/regional.php>.

¹¹ World Bank Development Indicators

This paper hypothesizes that MENA higher education privatization policies played a major role— along with several other economic policies— in facilitating MENA to Europe mass-migration. I hypothesize that MENA higher education privatization rapidly expanded MENA private universities, flooded the high-skilled labor market, helped exacerbate the MENA labor market skills mismatch, contributed to crippling tertiary unemployment, and furthered a stagnate regional economic landscape unsuitable to accepting MENA refugees.

Using country fixed effects and event study models with several datasets, this paper finds that region-wide higher education privatization policies led to a rapid increase in the number of private universities, in particular low-quality private universities. Rapid university expansion greatly increased tertiary education attainment, and far outpaced labor market demand for college graduates. This phenomenon contributed to a MENA labor market skills mismatch that caused high unemployment and low labor force participation amongst youth and college graduates. Maybe due to economic considerations and maybe due to political considerations, MENA nations have avoided resettling and/or economically integrating MENA refugees (usually Syrian, Iraqi, or Afghani) in any formal sector. The MENA region's effective refugee employment ban has led highly educated MENA refugees to leave the MENA region and re-seek asylum in Europe.

This paper's findings illuminate three main ramifications. Many MENA refugees re-seek asylum in Europe for formal labor opportunities, MENA refugees in Europe disproportionately possess college degrees, however the quality of MENA refugees' college degrees may often fall below Western standards.

2. Background and Literature Review

MENA Development, University Expansion, and High-Skilled Labor Market

In Fattah, Liman, and Makdisi's 2000 study of Middle Eastern economic growth from 1960 – 1998, they stated that MENA economic growth “has been both mixed and characterized by a higher degree of volatility in comparison with other regions of the world”, and that “in comparison with other regions, (Total Factor Productivity Growth) TFPG was not an important source of growth in the MENA region.”¹² Fattah et al conclude that lower levels of MENA TFPG, the economic output not explained by inputs, resulted from low quality institutions and low-quality human capital in comparison to the rest of the world. They recommended that MENA nations diversify their economic base, fix state universities and institutions that “distorted labor market signals”, reform educational systems “to dispense the type of education and knowledge that is more in line with the requirements of modern market economies rather than one that prepares graduates for employment in the public sector”, and pursue “policies of greater openness and integration in the world economy.”¹³

For various reasons over the last decades (oil dependence, authoritarianism, or conflict), MENA nations forwent international economic recommendations and sought knowledge driven, or endogenous growth models. Endogenous Growth Theory posits “that developing nations have a better chance of catching up with more advanced economies when they have a stock of labor with the necessary skills to develop new technologies themselves or to adopt and use foreign technology” and that “more

¹² Fattah, Zeki, Imed Limam, and Samir Makdisi. 2000. “Determinants of Growth in Arab Countries.” Paper commissioned by the Global Development Network for the Global Research Project on Explaining Growth. 26.

¹³ Fattah et al. Determinants of Growth in Arab Countries. 27.

education in the labor force increases output in two ways: education adds skills to labor, increasing the capacity of labor to produce more output; and it increases the worker's capacity to innovate (learn new ways of using existing technology and creating new technology) in ways that increase his or her own productivity and the productivity of other workers."¹⁴ MENA nations began to invest in public education as much as OECD nations and facilitated rapid expansion of private education— especially universities.

MENA higher education privatization policies, implemented throughout the last few decades, have drastically expanded private universities according to the Anabin University Database. The following time series graph shows growth of MENA private universities from 1960 to 2010.

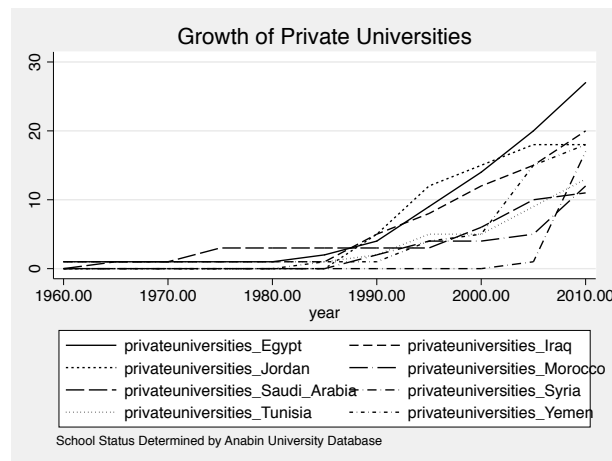


Figure 1. Private University Growth by Nation. Source: Anabin University Database.

Private universities have almost exclusively opened in the past two decades, and really took off between 2000 and 2010.¹⁵ 91 non-governmental universities existed in the MENA Anabin University Database in 2000, 38.1% of total MENA universities. 239 non-governmental universities existed by 2010, 52.8% of total MENA universities. Some

¹⁴ Galal, Ahmed. *The Road Not Traveled: Education Reform in the Middle East and North Africa*. Washington, D.C.: World Bank, 2008. 41.

¹⁵ Rugh, William. "Arab Education: Tradition, Growth and Reform." *Middle East Journal* 56, no. 3 (2002): 401. Accessed December 5, 2015. http://www.jstor.org/stable/4329785?seq=1#page_scan_tab_contents.

of these private universities established “easy” curriculum with little coursework and minimal academic standards. These “easy” curriculum took advantage of MENA families’ strong educational values and many Middle Eastern nations like Egypt witnessed a rapid rise in “demand-absorbing” private universities of “compromised quality and low status.”¹⁶ These demand-absorbing private universities did rapidly expand university access and degree attainment. The number of college graduates in higher education privatizing nations like Saudi Arabia and Oman rose by 162 and 661 fold since 1952 and 1970.¹⁷

Unfortunately, the economic benefits of MENA higher education attainment expansion and endogenous growth rely on free markets and stable governance. MENA nations needed to encourage international investment, recruit businesses, or foster entrepreneurship to utilize their growing pools of college graduates. However, the MENA region resides either at or near the bottom of Heritage Foundation’s Economic Freedom Index, the World Bank’s Worldwide Governance Indicators, and the World Bank’s Doing Business Indicators.¹⁸ Most MENA economies missed out on the macroeconomic benefits of expanding higher education access under the Endogenous Growth Theory model. As told in the World Bank’s book, *The Road Not Traveled: Education Reform in the Middle East and North Africa*:

“the (MENA) region generally lacks significant dynamic sectors that can compete internationally and is home to large informal labor markets, mainly in low-level services. These characteristics contrast sharply with East Asia and the more dynamic economies of Latin America. Under these conditions, we would not expect to see a strong relationship in the MENA region as a whole between investment in human capital—especially investment in secondary and tertiary

¹⁶ Barsoum, Ghada. "The Allure of 'easy': Reflections on the Learning Experience in Private Higher Education Institutes in Egypt." Taylor & Francis. March 16, 2016. Accessed April 06, 2016. <http://www.tandfonline.com/doi/abs/10.1080/03057925.2016.1153409>.

¹⁷ Rugh. *Arab Education: Tradition, Growth and Reform*. 397.

¹⁸ Sami, Ben Ali Mohamed. *Economic Development in the Middle East and North Africa: Challenges and Prospects*. London: Palgrave Macmillan, 2016. 10-12

education—and economic growth. This turns out to be the case. Thus, the MENA experience brings home the idea that investment in human capital does not by itself generate economic growth.”¹⁹

The quality of MENA higher education institutions also complicated the region’s Endogenous Growth Theory economic development model. Although Algeria and Libya expanded public universities in the 1980’s and 1990’s, most MENA nations privatized higher education and allowed private universities to boom. In Magdalena Karolak’s study of Bahrain’s university privatization reform, she finds that MENA university privatization “created challenges and fears over quality standards and the protection of consumer rights” and that “lack of proper standards and regulations could lead to the creation of ‘diploma mill’ institutions that exploit the public.”²⁰

Either the faulty execution of the Endogenous Growth Theory or the model itself failed the MENA region. A 2012 IMF study found that the MENA region oversaw the largest unemployment rate in the world, and the largest youth unemployment rate— over 25%. The region’s massive investment in education, and especially higher education, paid few dividends. Education growth did not significantly affect employment levels. The 2012 IMF report concluded that because of regional inability to create high-skilled jobs, a four-fold increase in average years of schooling, and education institutions that “fail to produce graduates with needed skills”, MENA nations continue to face a severe labor market skills mismatch.²¹

¹⁹ Galal. *The Road Not Traveled: Education Reform in the Middle East and North Africa*. 39-40.

²⁰ Martin, Michaela. *Cross-border Higher Education: Regulation, Quality Assurance and Impact*. Paris: International Institute for Education Planning, 2007. 15; 49.

²¹ Furceri et al. *Youth Unemployment in the MENA*. 2012.

Refugee Integration in the MENA Labor Market

As a result of failed endogenous economic growth, four traditional MENA refugee-receiving nations— Jordan, Lebanon, Turkey, and Egypt— have witnessed crippling economic stagnation and unemployment, especially amongst youths and college graduates. In these four MENA economies, a college degree increases someone’s unemployment likelihoods.²²

Jordan	Unemployment	Tertiary Unemployment	Labor Force Participation (15 – 64)
1995	14.60	NA	43.90
2000	13.70	14.80	43.70
2005	NA	24.50	42.40
2010	12.50	34.30	44.30
Egypt	Unemployment	Tertiary Unemployment	Labor Force Participation (15 – 64)
1995	11.30	NA	49.30
2000	9.00	NA	49.20
2005	11.20	NA	51.20
2010	9.00	39.70	51.90
Turkey	Unemployment	Tertiary Unemployment	Labor Force Participation (15 – 64)
1995	7.60	5.30	56.20
2000	6.50	9.60	51.50
2005	10.60	11.40	49.40
2010	11.90	14.50	52.40
Lebanon	Unemployment	Tertiary Unemployment	Labor Force Participation (15 – 64)
1995	8.10	NA	46.20
2000	8.80	NA	47.50
2005	8.20	21.20	49.70
2010	6.20	15.30	50.70

Table 1. Labor Statistics in Jordan, Egypt, Lebanon, and Turkey from 1995 to 2010. Source: World Bank Development Indicators. Notes: NA means data not available.

These stagnant MENA economies received the vast majority of Iraqi, Afghani, and Syrian refugees over the last decade. Although international aid and humanitarianism has helped temporarily accommodate displaced refugees, the number of displaced MENA residents has exponentially grown in the past five years. The escalating Syrian Civil War

²² Furceri, Guillaume, and Ahmed. *Youth Unemployment in the MENA*. 2012.

has displaced 9 million Syrians, the Iraq-ISIS war has displaced over 4 million Iraqis, and the ongoing Afghan-Taliban conflict has displaced over 3 millions Afghans.^{23,24,25} In 2012 and 2013, Jordan, Iraq, Turkey, and Egypt housed refugees in temporary, internationally-funded camps. In 2014 and 2015, pervasive conflict forced permanency on refugee populations, leading them to look for employment, homes, and citizenship that did not exist in their MENA host nations. Jordan, Egypt, Lebanon, and Turkey until 2016 effectively banned refugees from formal sector employment.^{26,27} Unemployment rates for MENA refugees and host nation native residents have skyrocketed since 2011.²⁸

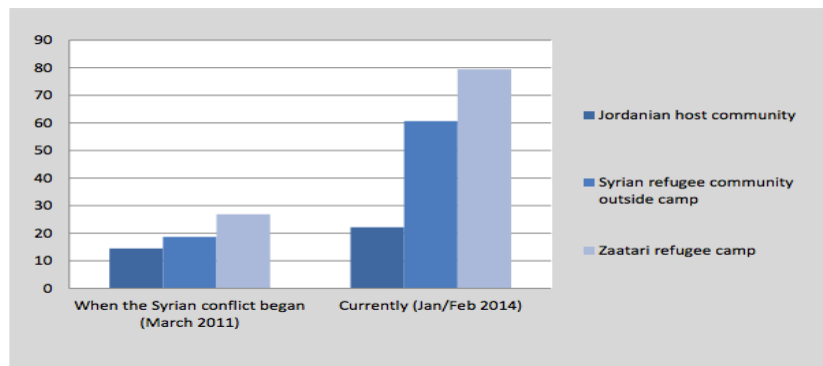


Figure 2. Unemployment Rates for Syrians in Jordan in 2011 and 2014. Source: Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 46.

In the ILO's *Impact of Syrian Refugees on the Jordanian Labor Market*, Stave and Hillesund found that despite Jordan's effective refugee employment ban, MENA refugee flows have significantly increased unemployment and lowered labor force participation rates in Jordan—a nation that already struggled with the two economic

²³ UNOCHA. "Afghanistan." United Nations Office of Coordination of Humanitarian Affairs. February 6, 2016. Accessed February 10, 2016. <http://www.unocha.org/afghanistan>.

²⁴ UNOCHA. "Iraq." United Nations Office of Coordination of Humanitarian Affairs. February 6, 2016. Accessed February 10, 2016. <http://www.unocha.org/iraq>.

²⁵ UNOCHA. "Syrian Arab Republic." United Nations Office of Coordination of Humanitarian Affairs. February 6, 2016. Accessed February 10, 2016. <http://www.unocha.org/syria>.

²⁶ Refugee Council. *At the Breaking Point: Refugees in Jordan and Egypt*. 4.

²⁷ USA, Refugee Council. "At the Breaking Point: Refugees in Jordan and Egypt." RCUSA. March 31, 2015. Accessed January 27, 2016. <http://www.rcusa.org/uploads/pdfs/At the Breaking Point - RCUSA Report on Refugees in Jordan and Egypt.pdf>.

²⁸ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 46.

indicators prior to the MENA Refugee Crisis. Prior to 2011, Jordanian male labor force participation lay at 67%, female labor force participation at 18%, Jordanian unemployment at 14.5%, and Jordanian youth unemployment at 30%.²⁹ Employers appear to have replaced many Jordanians, who receive a minimum monthly wage of \$268, with cheaper Syrian laborers (an enormous supply of cheap Syrian laborers exist in Jordan because Jordanian labor laws confine both highly educated and less educated Syrians to the informal labor market). As of 2014, labor force participation (LFP) remained stagnant for Jordanians but total unemployment rose to 22% and youth unemployment rose to a staggering 42%.³⁰

Economic distress on native Jordanians led the Jordanian government to ban working permits for any Syrians outside of refugee camps, and almost all employed Syrian refugees work in the informal sector— only 10% of employed Syrian refugees have work permits.³¹ Syrian LFP hovers at 27-28% and Syrian unemployment has risen to 60% in Jordanian cities and towns and 80% in refugee camps.³² The UNHCR's Survey of Jordanian Homes,³³ "*Living in the Shadows*," found that Syrians in Jordan had to dig almost \$40 into their savings per month just to live \$1 below Jordan's absolute poverty line. Through secondary market labor, Syrians in Jordan earned a per capita/per month income of 41.22 JD (58.22 USD), but spent 1.6 times more than their income for

²⁹ Hillesund, Solveig, and Svein Stave. "Impact of Syrian Refugees on the Jordanian Labour Market." Impact of Syrian Refugees on the Jordanian Labour Market. 2015. Accessed January 27, 2016. 14. http://www.ilo.org/beirut/publications/WCMS_364162/lang--en/index.htm.

³⁰ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 47.

³¹ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 6.

³² Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 46.

³³ *Living in the Shadows* builds on data collected during 41,976 interviews of refugee households conducted by IRD in Jordan.

UNHCR's implementing partner International Relief and Development (IRD)

expenditures per capita/per month of 67 JD (95 USD).³⁴ Despite digging into their savings at an average of 25.78 JD (36.61 USD) per capita/per month, Syrians in Jordan still spend less than the Jordanian absolute poverty line of 68 JD (96 USD) per capita/per month.³⁵ Andrew Harper, the UNHCR's Representative in Jordan, stated that "we are seeing Syrian refugees in Jordan having entered a downward spiral in terms of their ability to sustain themselves. We are concerned that this will deteriorate even further in 2015."³⁶ Mohammed, a Syrian interviewee leading a family of four children, said that "life as a Syrian refugee in Jordan is like being in quick sand; whenever I move, I sink a little bit further."³⁷

In Lebanon, where refugees make up over a quarter of the population, David Schenker of the Washington Institute claims that unemployment has doubled since the arrival of Syrian refugees to 24% total and 35% of all youth. Poverty among native Lebanese has risen by 166% and the Lebanese government now requires Syrian refugees to purchase \$200 six-month residency permits that restrict them from formal work.³⁸

Even before the MENA Refugee Crisis, many MENA workers felt compelled to migrate to earn wages that matched their education. Greater remittance growth than total MENA migrant growth likely indicates that recent MENA emigrants held higher human capital levels. Between 2002 and 2008, MENA remittances rose from \$15.2 billions

³⁴ Voon, Frances. "Living in the Shadows: Jordan Home Visits Report 2014, - UNHCR." UNHCR. 2014. 29. Accessed March 04, 2016. <http://unhcr.org/jordan2014urbanreport/media-summary-english.pdf>.

³⁵ Voon. *Living in the Shadows: Jordan Home Visits Report 2014*, - UNHCR. 29.

³⁶ Voon. *Living in the Shadows: Jordan Home Visits Report 2014*, - UNHCR. 4.

³⁷ Voon. *Living in the Shadows: Jordan Home Visits Report 2014*, - UNHCR. 4.

³⁸ Schenker, David. "Syria's Good Neighbors: How Jordan and Lebanon Sheltered Millions of Refugees." - The Washington Institute for Near East Policy. September 28, 2015. Accessed February 15, 2016. <http://www.washingtoninstitute.org/policy-analysis/view/syrias-good-neighbors-how-jordan-and-lebanon-sheltered-millions-of-refugees>.

dollars to \$33.7 billion dollars, a 122% increase, even though average MENA migration only rose 37% along a similar timeline.^{39,40}

Table 2.7 Remittance flows to developing countries, 2002–08 (US\$ billion)

	2002	2003	2004	2005	2006	2007	2008e
All developing countries	115.5	144.3	164.4	194.8	228.7	280.8	305.4
as % of GDP	1.9	2.1	2.0	2.0	2.0	2.1	1.9
<i>By region</i>							
East Asia and Pacific	29.5	35.4	39.2	46.7	53.0	65.3	69.6
Europe and Central Asia	13.7	15.5	22.2	31.2	38.3	50.4	53.1
Latin America and the Caribbean	27.9	36.6	43.3	50.1	59.2	63.1	63.3
Middle East and North Africa	15.2	20.4	23.0	24.3	25.7	31.3	33.7
South Asia	24.1	30.4	28.7	33.1	39.6	52.1	66.0
Sub-Saharan Africa	5.0	6.0	8.0	9.4	12.9	18.6	19.8

Table 2. Remittance Flows from Developing Countries between 2002 and 2008. Sources: World Bank. Global Development Finance 2009 Vol I.

If high-skilled and high-educated natives migrated from MENA nations for work offering suitable wages abroad, any high skilled MENA refugees from Syria, Iraq, and Afghanistan likely came to similar conclusions, and disproportionately migrated to the EU. An OECD policy brief found that while only 18% of Syrians had completed at least an upper-secondary education in 2010, 40% of Syrian arrivals in Sweden had completed at least an upper secondary education. While only 5.7% of Syrians in 2010 possessed a tertiary degree, 15% of Syrians in Germany possess a tertiary degree.^{41,42} And in 2016, De Wit and Altbach found that European nations perceive “refugees from Syria, Iraq, and the Kurdish areas ... to be better educated.”⁴³

³⁹ World Bank. "Global Development Finance 2009 Vol I." Global Development Finance 1 (May 26, 2009). Accessed February 16, 2016. 55.

http://siteresources.worldbank.org/INTGDF2009/Resources/gdf_combined_web.pdf.

⁴⁰ World Bank Global Bilateral Migration Database.

⁴¹ World Bank Global Development Indicators

⁴² Dumont, Jean-Christophe, and Stefano Scarpetta. "Migration Policy Debates." OECD. September 7, 2015. Accessed February 10, 2016. 8. <http://www.oecd.org/migration/Is-this-refugee-crisis-different.pdf>.

⁴³ De Wit, Hans, and Philip Altbach. "The Syrian Refugee Crisis and Higher Education | De Wit | International Higher Education." The Syrian Refugee Crisis and Higher Education | De Wit | International Higher Education. January 2016. Accessed February 16, 2016. 1. <https://ejournals.bc.edu/ojs/index.php/ihe/article/view/9109/8209>.

3. Data

I compiled data from several different sources into one cohesive data set— the MENA Higher Education Data Set (MHEDS). The MHEDS Data Table will lay out the data sources that led to different variables in the MHEDS and the Data Sources section will briefly discuss the data source, the data gathering process, and the data cleaning process.

Before the data table discussion, I discuss why I chose to represent only fourteen MENA nations in the MHEDS dataset. MENA macro-data incurs severe geo-political and economic limitations in data collection. The *Barro-Lee Educational Attainment Dataset* notably omitted Lebanon, the West Bank and Gaza, and Oman. Those three nations also incurred low data collection between 1960 - 2010 to a point where their inclusion in the MHEDS dataset prohibited accurate statistical analysis. Consequently, I chose to include only the following fourteen MENA nations: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Libya, Morocco, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen. I notably excluded Lebanon and the Palestinian Authority from the dataset because those entities lacked data in two or more of the following. *Table 3* lays out the data sources, variable types, and the number of variables used or referenced by this paper.

Variable Category	Variables Types	Number of Variables	Variable Source
Barro- Lee Education Data	<ul style="list-style-type: none">• Population• Schooling Levels• Schooling Completed• Average Years of Schooling		http://www.barrolee.com/
Anabin MENA University Data	<ul style="list-style-type: none">• Number of Universities	8	http://anabin.kmk.org/

	<ul style="list-style-type: none"> • Quality of Universities • National Privatization Shifts⁴⁴ 		
World Bank World Development Indicators	<ul style="list-style-type: none"> • GDP Data • Unemployment Data • Population Breakdown 	6	http://data.worldbank.org/data-catalog/world-development-indicators
World Bank Global Bilateral Migration Database	<ul style="list-style-type: none"> • Migration Rates • Immigration Rates 	4	http://data.worldbank.org/data-catalog/global-bilateral-migration-database
Polity Database	<ul style="list-style-type: none"> • Democratic Nature • Regime Stability • Regime Changes • Government Openness 	2	http://www.systemicpeace.org/polity/polity4.htm

Table 3. Data Table Guide Notes: Sources listed in table.

Variable	Obs	Mean	Std. Dev.	Min	Max
Universities	154	11.35065	13.28252	0	79
Private universities	154	4.103896	8.323656	0	66
Low-Quality Private Universities	154	1.857143	4.071949	0	20
Private University Quality Index	82	0.9074301	0.6167514	0	2
Unemployment Rate	42	10.81905	6.845195	0.7	29.8
LFP	70	56.12	12.01535	41.0	87.1
Population Growth	153	3.781899	2.659044	0.0268026	16.24807
Percent Migrants	84	0.0848067	0.0753589	0.0097899	0.3614938
Percent Migrants to EU	84	0.0195944	0.0356471	0.0000234	0.17757
Percent Migrants to Gulf States	84	0.0201501	0.044591	0	0.2503321
Percent Migrants to OECD States	84	0.0280192	0.0360829	0.0001108	0.1842231
Log Remittances	58	6.649168	1.459542	1.759256	9.429805

Table 4. Summary Statistics. Notes: Published regression indicator summary statistics aggregated through STATA sum command.

Data Sources

Barro- Lee Education Data

The Barro-Lee educational attainment data follows 146 countries in 5-year intervals from 1950 to 2010. The data details the distribution of educational attainment of the adult population over age 15 and over age 25 by sex at seven levels of schooling— no formal education, incomplete primary, complete primary, lower secondary, upper

⁴⁴ I compiled national higher education privatization policy shifts from individual national laws and/or from circumstantial evidence— the founding year of the first private university.

secondary, incomplete tertiary, and complete tertiary. The data set also measures schooling at the primary, secondary, and tertiary levels for each country and for regions in the world.

I gathered the *Barro- Lee Education Data* to obtain educational attainment data for fourteen MENA nations. I gathered data on educational participation, completion, and gender in five-year intervals to describe all fourteen MENA nation's educational progressions. The data required relatively little cleaning.

Anabin MENA University Data

The German Anabin database – recognition and evaluation of foreign educational qualifications in English – lists and evaluates foreign higher educational institution to provide insight to German Universities as they solicit foreign academics. The database assesses foreign university degrees, university entrance qualifications, intermediate levels of education, and qualifications from the professional field. The database has been built over the last ten years, and documents 180 countries, over 25,000 institutions, 22,000 university degrees, 25,000 individual case reports, 5,800 vocational qualification entries, and 1,500 secondary school leaving certificates. The Anabin database exists to provide German universities with data on other world universities for exchange programs, study abroad applications, and international hiring. The database lists registered universities in most countries around the world and provides a ranking, on a three-point scale⁴⁵, of the

⁴⁵ The three-point scale consists of three ratings— H +, H +/-, H -. H + indicates a university accredited both in its home country and in Germany. H +/- denotes a university that exists either unrecognized in the host country or in Germany, and/or a university where some students possess accreditation and others do not. H - demonstrates an institution that should not have accreditation as a university because it a) lacks host country accreditation, or b) the education falls short of German higher education standards.

university's reputation as well as the university's founding year. Although highly regarded, the Anabin MENA University Database errantly double-lists many Francophile MENA universities under their French, Arabic, and/or English names. Consequently, I double-checked all of the Anabin data with individual national registries.

I gathered data from the *Anabin MENA University Data* through downloading country specific university-data from the website to an excel document. I went through all fourteen nation's higher education registries, listed out every one of the nation's accredited universities, the university's ranking, the university's status as private or non-private, other unique attributes, and the university's founding date on a comprehensive MENA University dataset.

World Bank World Development Indicators

The World Bank WDI collects 214 world economy development indicators from officially recognized international sources. It presents the most current and accurate global development data available, and combines national, regional and global estimates. I gathered information on six general economic and nation-specific indicators from the *World Bank World Development Indicators Database* that required very little cleaning.

World Bank Global Bilateral Migration Database

The World Bank's Bilateral Migration Database presents migrant stock matrices from 1960 to 2000. The Database also separates data by gender and relies on the foreign-born concept of migration— a person born in Jordan and residing in England qualifies as

a Jordanian migrant to England. The data represents a collection of over one-thousand census and population records recorded every ten years.

I gathered international migration related data from the *World Bank Global Bilateral Migration Database*. The Global Migration Database occurred in ten-year time intervals and in country specific values. I cleaned and organized this data into four migrant indicators— total migration, total migration to gulf states, total migration to OECD nations, and total migration to the European Union.

Polity Database

Polity IV scores measure the democratic nature of 167 governments from 1946 to 2013. Polity IV represents indicators such as "factionalism", important Polity change events, autocratic backsliding, executive auto-coup or *autogolpe*, revolution, collapse of central authority (state failure), and successful military coups. I gathered government and democracy related data from the *Polity IV dataset* but I only selected and used two variables.

4. Methods

The **Methods** section lays out my research questions, my hypotheses, and the econometric methods I use to test my hypotheses. The **Final Discussion** section analyzes the final hypothesis through quantitative and qualitative methods because of scarce subject-matter data.

1. Did MENA privatization policies expand private universities?

I hypothesize that if a MENA nation begins accrediting private universities, private universities will rapidly expand. To test this hypothesis, I employed a country fixed-effects regression that tested the effects of privatization on total private universities. The country fixed effects regression controlled for unobserved individual nation characteristics that do not change with time. I also included a separate time trend for each country to help control for unobserved differences over time and unobserved differences common to each country. I also utilized an event study that set the privatization policy implementation year to zero and graphically analyzed the growth in different types of MENA universities over time. Lastly, all fourteen MENA nations analyzed by this model all took steps to privatize their higher education system between 1960 and 2010.

This model utilized a fixed effects model because the assumptions of a random effects model do not hold with the MHEDS panel dataset. The random effects model requires the country specific time-invariant unobservables to remain uncorrelated with the independent variables in the model. However, care should be taken in interpreting the results as potential problems may exist if countries had time-varying unobservables that correlated with the independent variables. For example, the UAE discovering oil greatly

expanded the UAE Higher Education System, and Nasserism and Arab Nationalism brought about MENA-wide higher education expansion as nation's took charge of their futures.

$$(\log \text{ Private Universities})_{it} = a_i + (\text{Privatization})_{it} b + a_i \times (\text{year}_t) + e_{it}$$

Here, a_i = country specific constant (or fixed effect), b = beta— how much the independent variable shifts the dependent variable from the intercept, $a_i \times (\text{year}_t)$ = nation specific time trend, e_{it} = error of independent variables.

2. Did an expansion in private universities lower university quality?

I hypothesize that MENA's rapid expansion of private universities with low accreditation measurements led to lower MENA university quality.⁴⁶ To test this hypothesis, I utilized a country fixed-effects model time series regression that analyzed the effects of private university expansion on private university and general university quality. I again held constant regional and individual nation trends.

$$(\log \text{ Private University Quality Index})_{it} = a_i + (\text{Privatization})_{it} b + a_i \times (\text{year}_t) + e_{it}$$

3. Did an expansion in private universities further the MENA labor market skills mismatch, expand labor force participation, or reduce unemployment?

States incur numerous incentives to expanding higher education— increasing national human capital levels to draw businesses, creating young entrepreneurs, educating a new

⁴⁶ Anabin MENA University Data determines quality on a three-point scale consisting of three ratings— H +, H +/-, H -. H + indicates a university accredited both in its home country and in Germany. H +/- denotes a university that exists either unrecognized in the host country or in Germany, and/or a university where some students possess accreditation and others do not. H – demonstrates an institution that should not have accreditation as a university because it a) lacks host country accreditation, or b) the education falls short of German higher education standards.

generation of national leadership, and fostering a more enlightened electorate. At the most basic level, states hope to create more productive citizens and train their citizens to meet current labor market demands. Consequently, the success of privatization and expanding university access will manifest itself in increased labor force participation rates and decreased unemployment rates. However, I hypothesize that if MENA nations expanded private universities, then they exacerbated the MENA skills mismatch, raised unemployment, and lowered labor force participation.

$$(\log LFP)_{it} = a_i + (Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

$$(\log Unemployment)_{it} = a_i + (Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

3.1. Did an expansion in dubious quality private universities expand labor force participation or reduce unemployment?

Next, I study whether the quality of private university expansion affected labor force participation rates and/or unemployment. I ran a regression testing the effects of low-quality private universities on log unemployment and log labor force participation rates. I hypothesize that if low-quality universities expanded, then unemployment rose and labor force participation shrunk.

$$(\log Unemployment)_{it} = a + (Low\text{-}Quality\ Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

$$(\log LFP)_{it} = a + (Low\text{-}Quality\ Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

3.2. Did low quality private university expansion raise unemployment and/or lower labor force participation or did high unemployment and low labor force participation spur an expansion of low quality private universities?

If private university expansion correlates with higher unemployment and lower labor force participation, I must next determine causality. Did the expansion of low quality private universities over-educate MENA residents and lead to high unemployment? Or, did private universities expand to take advantage of the high number of unemployed MENA youth who sought a higher education to improve their job market viability?

This model will 1) lag dubious-quality private university expansion to test the causality hypothesis that university expansion affected unemployment and labor force participation rates, and 2) lag unemployment and labor force participation rate to test the causality hypothesis that high unemployment and low labor force participation spurred on the expansion of private universities. I hypothesize that the lagged expansion of private and low-quality private universities led to higher future unemployment rates and lower future labor force participation rates.

$$(Unemployment)_{it} = a + (Lagged\ Low\text{-}Quality\ Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

$$(LFP)_{it} = a + (Lagged\ Low\text{-}Quality\ Private\ Universities)_{it}b + a_i \times (year_t) + e_{it}$$

$$(Low\text{-}Quality\ Private\ Universities)_{it} = a + (Lagged\ Unemployment)_{it}b + a_i \times (year_t) + e_{it}$$

$$(Low\text{-}Quality\ Private\ Universities)_{it} = a + (Lagged\ LFP)_{it}b + a_i \times (year_t) + e_{it}$$

3.3. Did rapid population growth lead MENA nations to expand universities?

Another causality story presented in MENA higher education literature explains that MENA institutions and higher education rapidly expanded to accommodate booming population. I hypothesize that population growth never directly instigated MENA university expansion. I test this hypothesis in the following statistical analysis that tests the effect of population growth at t_0 , population growth lagged 5 years, and population

growth lagged 10 years on universities, private universities, and low-quality private universities.

$$(Universities)_{it} = a + (Lagged\ and\ Non-lagged\ Population\ Growth)_{it}b + a_i \times (year_t) + e_{it}$$

$$(Private\ Universities)_{it} = a + (Lagged\ and\ Non-lagged\ Pop\ Growth)_{it}b + a_i \times (year_t) + e_{it}$$

$$(Low-Quality\ Private\ Universities)_{it} = a + (Lagged\ and\ Non-lagged\ Population\ Growth)_{it}b + a_i \times (year_t) + e_{it}$$

4. Did an expansion in private universities expand migration and/or remittance rates?

MENA migration and remittance rates have risen in recent years, and I tested the effects of private university expansion on both MENA migration and MENA remittances, holding constant both year and individual nation trends. I hypothesize that if MENA nations expand private universities, they incur lower migration totals and higher remittance totals. Besides testing national migration percentage and log total remittances as outcome variables, I also test private university expansion's effect on a state's proportion of migrants to the EU, proportion of migrants to OECD states, and proportion of migrants to Gulf states.

$$(\log\ Migration)_{it} = a + (Privatization)_{it}b + a_i \times (year_t) + e_{it}$$

$$(\log\ Remittance)_{it} = a + (Privatization)_{it}b + a_i \times (year_t) + e_{it}$$

5. Did a lack of suitable regional labor opportunities for highly educated MENA refugees lead highly educated MENA refugees to re-seek asylum in Europe?

I hypothesize that if MENA refugee-receiving nations limit refugees from accessing the formal labor market, then increasing opportunity cost and diminishing savings eventually spurred MENA refugees to re-seek asylum in Europe. Because of limited data, I test this hypothesis through qualitative sources—reports, statistics, and scholarship.

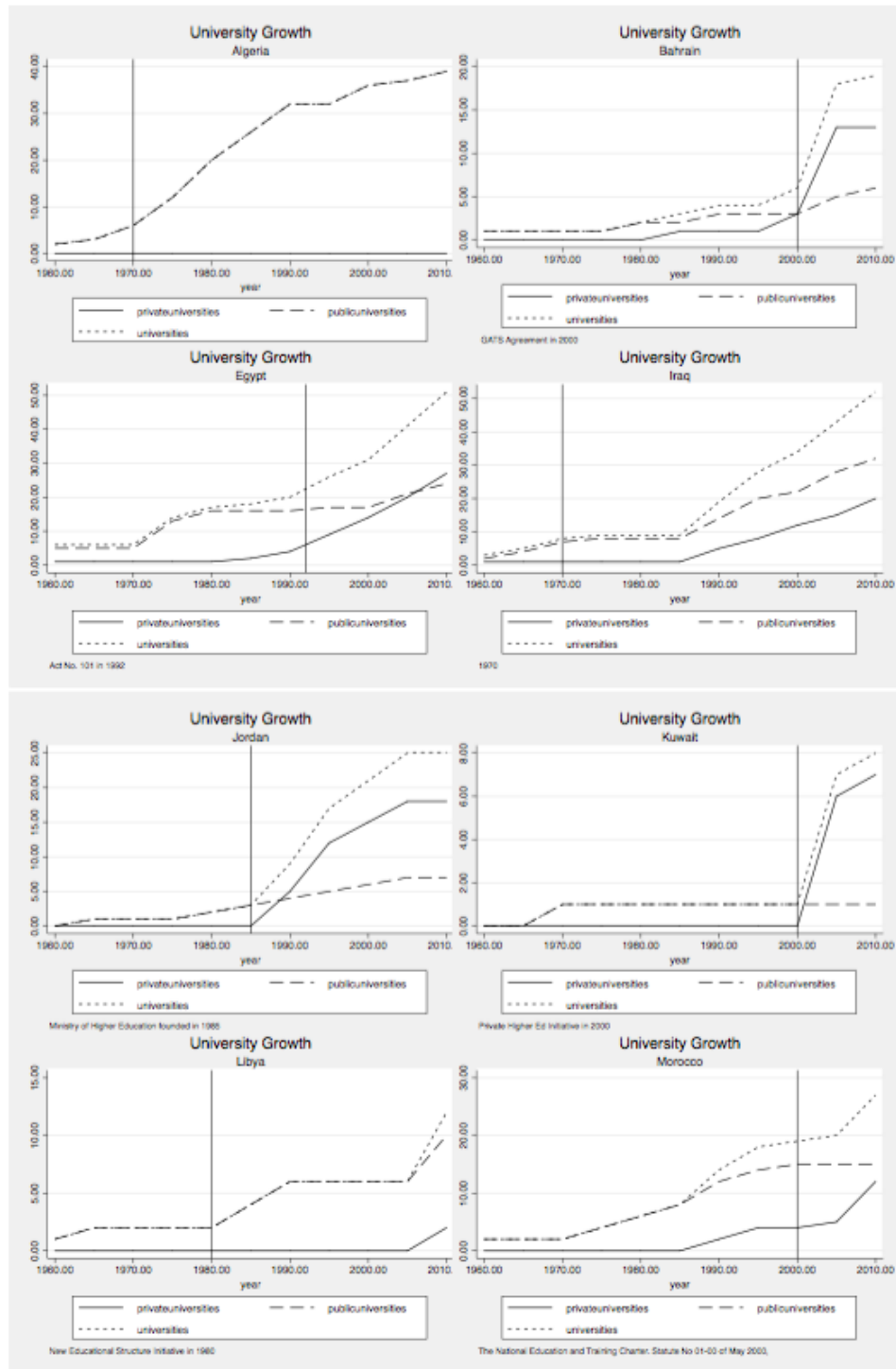
5. Econometric Analysis & Results

Question 1: Did MENA privatization policies expand private universities?

A National Tertiary Education Policy Shift's on Log Private Universities	
Effect on Log Private Universities	
Privatization Policy Shift	0.362** (0.147)
Observations	154
Number of nationcode	14
R-squared	0.809
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Country trends listed out in full in the Appendix Sources: Anabin MENA University Data Notes: The first model, a nation's privatization policy shift's effect on the number of log private universities, relied on a nation level fixed effects model with separate nation year trends: $(\log Unemployment)_{it} = a + (Private Universities)_{it}b + v_i + e_{it}$.	

Table 5. A National Tertiary Education Policy Shift's on Log Private Universities. Sources: Anabin MENA University Data

MENA privatization policy shifts caused a 36.2 percent increase in MENA private universities at a statistically significant level after holding constant individual national trends. The following graphs display the time trends of private, public, and total universities for all fourteen MENA nations in relation to each national privatization policy shift.



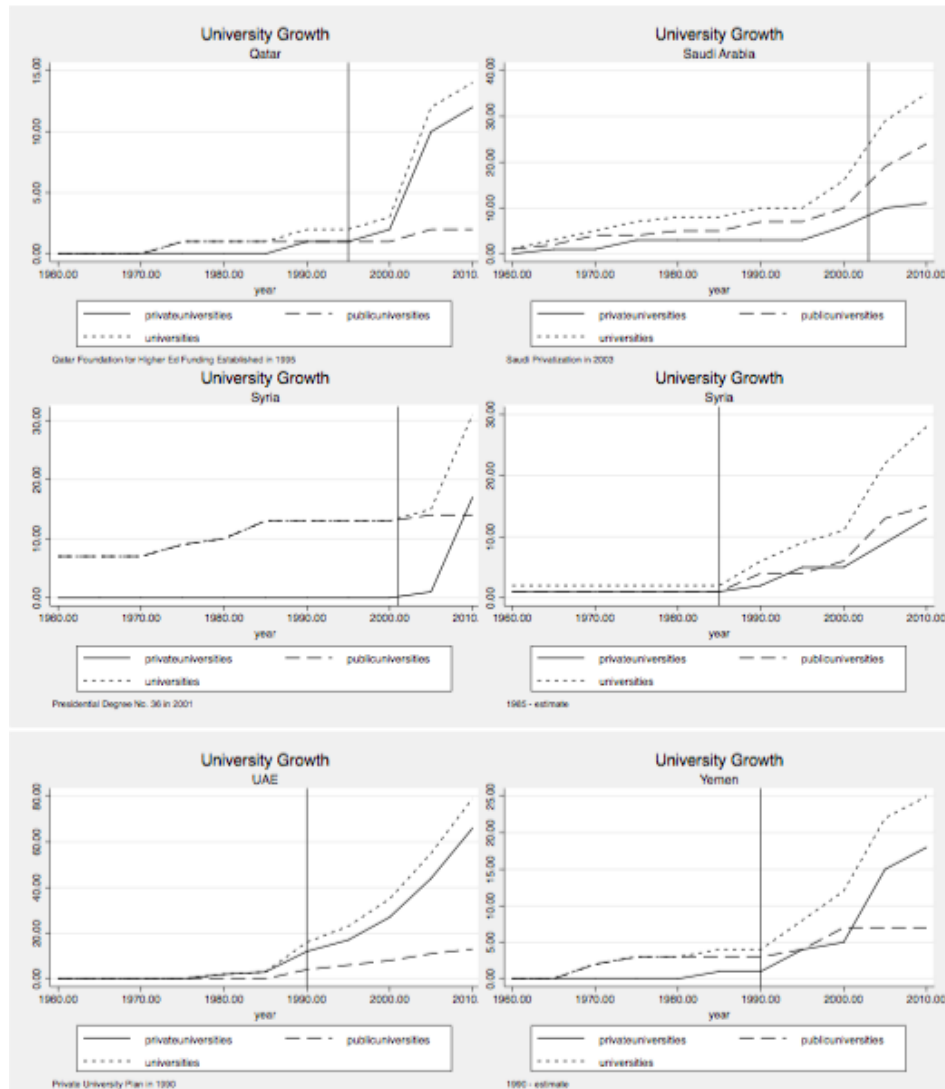


Figure 3. Time-Series Graph of Individual MENA University Trends. Source: Anabin MENA University Data

The following event study superimposes each nation's private university growth on an event study graph where the privatization policy shift occurs at t_0 . The event study allows us to compare post-privatization policy university growth between nations using a common time axis. The event study shows us that higher education privatization policies in most MENA nations led to a rapid increase in private universities or expanded previous private university growth.

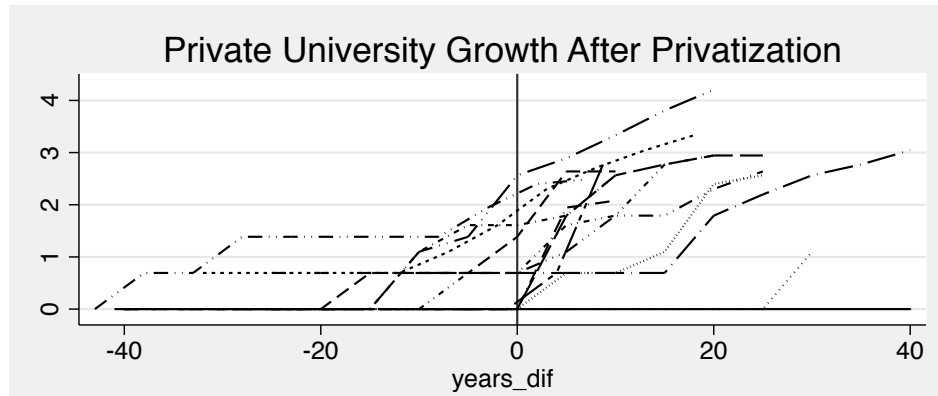


Figure 4. Event Study of Log MENA Private Universities Post-Privatization Policy. Sources: Anabin MENA University Data

Question 2: Did an expansion in private universities lower university quality?

A National Tertiary Education Policy Shift's Effect on Log Private University Quality Index	
Dependent Variables →	Private University Quality Index
Independent Variables ↓	
Privatization Policy Shift	0.00664 (0.0173)
Observations	82
Number of nationcode	13
R-squared	0.754
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Country trends listed out in full in the Appendix Sources: World Bank World Development Indicators, Anabin MENA University Data Notes: The first model, a national university privatization policy's effect on log private university quality, relied on a nation level fixed effects model with separate nation year trends: $(\log \text{ Private University Quality Index})_{it} = a + (\text{Privatization Shift})_{it}b + v_i + e_{it}$.	

Table 6. A National Tertiary Education Policy Shift's on Log Private University Quality Index. Sources: Anabin MENA University Data.

The privatization of MENA universities insignificantly affected the Anabin University Quality Index. These results likely stem from the lack of private universities of any quality before the national privatization policies, which effectively cut my dataset by over half – from 1960 to 2010 to 1990 to 2010— and decreased the statistical certainty. The statistical certainty also lacked due to flaws in the Anabin data, which

ranks universities on a three-point scale, limiting the data's variation and making it more difficult for the model to predict with certainty.

However, if we look at other literature and analyze the data graphically, it appears likely that privatization policies diminished university quality. In *Education Quality in the Middle East*, David Chapman notes that “Low quality of education is a primary concern and one of the greatest challenges facing education and government leaders across the region.”⁴⁷ Higher education scholars at UNESCO worry that opening higher education to international markets will create quality standard concerns and lead to ‘diploma mill’ institutions that exploit the public”⁴⁸. The following event study graph displays the number of low-quality⁴⁹ universities after privatization policies, superimposing low quality private university growth trends at a point of national privatization policy shifts of t_0 .

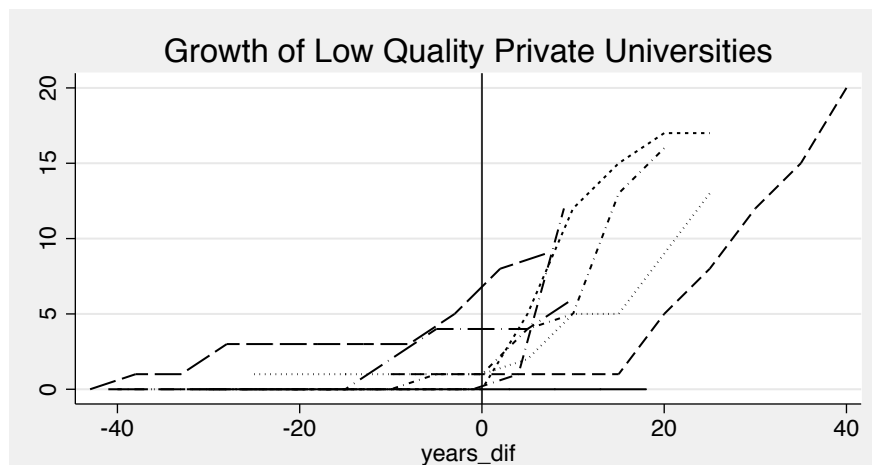


Figure 5. Event Study of Low-quality Private University Growth after Privatization. Sources: Anabin MENA University Data.

Question 3: Did an expansion in private universities expand labor force participation, reduce unemployment, or improve private returns to higher education?

⁴⁷ Chapman, David W., and Suzanne L. Miric. "Education Quality in the Middle East." *International Review of Education Int Rev Educ*, 2009, 311-44.

⁴⁸ Martin, Michaela. *Cross-border Higher Education: Regulation, Quality Assurance and Impact*. 49.

⁴⁹ Schools receiving a rank of H+/- or H- on Germany's Anabin University Database.

National Expansions of Private Universities on Log Unemployment and Log Labor Force Participation Rate		
Dependent Variables →	Log Unemployment	Log Labor Force Participation Rate
Independent Variables ↓		
Private Universities	0.0684* (0.0326)	-0.0981 (0.0993)
Observations	40	70
Number of nationcode	0.590	14
R-squared	12	0.559
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Country trends listed out in full in the Appendix Sources: World Bank World Development Indicators, Anabin MENA University Data Notes: The first model, private universities' effect on log unemployment, relied on a nation level fixed effects model with separate nation year trends: $(\log Unemployment)_{it} = a + (Private Universities)_{it}b + v_i + e_{it}$. The second model, private universities' effect on log labor force participation rates, relied on a nation level fixed effects model with separate nation year trends: $(\log LFP)_{it} = a + (Private Universities)_{it}b + v_i + e_{it}$.		

Table 7. National Expansions of Private Universities on Log Unemployment and Log Labor Force Participation Rate.
Sources: World Bank World Development Indicators and Anabin MENA University Data.

MENA private university expansion significantly raised national unemployment and insignificantly lowered labor force participation rates for the age adjusted 15-64-year-old population. These weak coefficient values may arise because a few nations responsibly expanded private universities with high academic standards and numerous quality controls— Bahrain, Kuwait, Egypt, and Libya. Unfortunately, other nations like Iraq, Jordan, Syria, Tunisia, and Yemen rapidly expanded private universities with no quality controls and incurred large increases in low-quality private universities. *Figure 6* displays national private university trends while drawing quality distinctions.

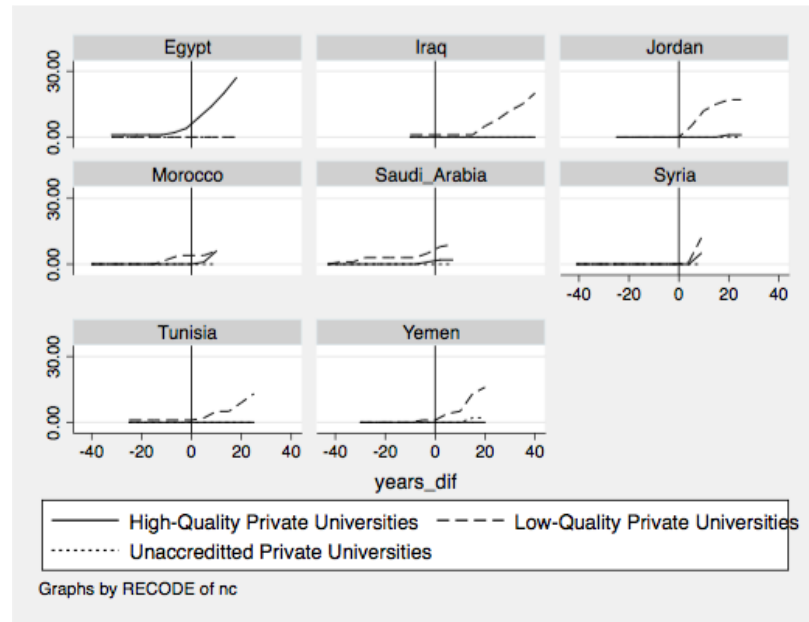


Figure 6. Nationalized Event Study of MENA University Growth by University Quality. Sources: Anabin MENA University Data.

In order to isolate the fixed effect time series regression to nations that irresponsibly expanded private universities of dubious quality, I ran a regression testing the effects of only dubious quality private universities on log unemployment and log labor force participation rates.

Question 3.1: Did an expansion in dubious quality private universities expand labor force participation or reduce unemployment?

National Expansions of Low-Quality Private Universities on Log Unemployment and Log Labor Force Participation Rate		
Dependent Variables →	Log Unemployment	Labor Force Participation Rate
Independent Variables ↓		
Low Quality Private Univ	0.263*** (0.0643)	-0.134 (0.197)
Observations	40	70
R-squared	0.739	0.554
Number of nationcode	12	14
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 \ Data unavailable		
Sources: World Bank World Development Indicators, Anabin MENA University Data		
Notes: The first model, low quality private universities' effect on log unemployment, relied on a nation level fixed effects model with separate nation year trends: $(\log Unemployment)_{it} = a + (Low\ Quality$		

$$\text{Private Universities)}_{it}b + v_i + e_{it}.$$

The second model, low quality private universities' effect on log labor force participation rates, relied on a nation level fixed effects model with separate nation year trends: $(\log LFP)_{it} = a + (\text{Low Quality Private Universities})_{it}b + v_i + e_{it}$.

Table 8. National Expansions of Private Universities on Log Unemployment and Log Labor Force Participation Rate. Sources: World Bank Development Indicators and Anabin MENA University Data.

In the more specifically tailored regression, we find that the MENA expansion of low-quality private universities raised region-wide unemployment by 26.3% at the 99% confidence level. The expansion of low-quality private universities carried an insignificant negative effect on regional labor force participation rates.

These results could explain two causality stories: 1) the expansion of low quality private universities over-educated MENA residents and led to high unemployment, or 2) private universities expanded to take advantage of the high number of unemployed MENA youth who sought a higher education to improve their job market viability.

The following model will lag dubious-quality private university expansion to test the causality hypothesis that university expansion affected unemployment and labor force participation.

Question 3.2: Did low quality private university expansion raise unemployment and/or lower labor force participation or did high unemployment and low labor force participation spur an expansion of low quality private universities?

Testing the Causality of Low Quality Private University Expansion, Unemployment, and Labor Force Participation Rates								
Dependent Variables →	Unemploy ment	Unemploy ment	LFP	LFP	Low-Quality Private Universities	Low-Quality Private Universities	Low-Quality Private Universities	Low-Quality Private Universities
Independent Variables ↓								
Low-Quality Private Universities Lagged 5 Years	0.365		0.226					
	(1.154)		(0.296)					
Low-Quality Private Universities Lagged		-2.255		-0.244				

10 Years								
		(2.144)		(0.367)				
Total Unemployment Lagged 5 Years					-0.0132			
					(0.0260)			
Total Unemployment Lagged 10 Years						-0.0846**		
						(0.0251)		
LFP Lagged 5 Years							-0.276*	
							(0.157)	
LFP Lagged 10 Years								-0.282
								(0.263)
Observations	40	40	70	70	31	24	56	42
R-squared	0.414	0.447	0.555	0.554	0.914	0.997	0.872	0.905
Number of nationcode	12	12	14	14	12	10	14	14
<p>Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 `Sources: World Bank World Development Indicators, Anabin MENA University Data Notes: The first model, low quality private universities' effect on five-year-future unemployment rates, relied on a nation level fixed effects model with separate nation year trends: $(Unemployment)_{it} = a + L(5).(Low\ Quality\ Private\ Universities)_{it}b + v_i + e_{it}$. The second model, low quality private universities' effect on five-year-future labor force participation rates, relied on a nation level fixed effects model with separate nation year trends: $(LFP)_{it} = a + L(5).(Low\ Quality\ Private\ Universities)_{it}b + v_i + e_{it}$. The third model, low quality private universities' effect on ten-year-future unemployment rates, relied on a nation level fixed effects model with separate nation year trends: $(Unemployment)_{it} = a + L(10).(Low\ Quality\ Private\ Universities)_{it}b + v_i + e_{it}$. The fourth model, low quality private universities' effect on ten-year-future labor force participation rates, relied on a nation level fixed effects model with separate nation year trends: $(LFP)_{it} = a + L(10).(Low\ Quality\ Private\ Universities)_{it}b + v_i + e_{it}$. The fifth model, unemployment's effect on five-year-future low-quality private university expansion, relied on a nation level fixed effects model with separate nation year trends: $(Low\ Q\ Private\ Universities)_{it} = a + L(5).(Total\ Unemployment)_{it}b + v_i + e_{it}$. The sixth model, unemployment's effect on ten-year-future low-quality private university expansion, relied on a nation level fixed effects model with separate nation year trends: $(Low\ Q\ Private\ Universities)_{it} = a + L(10).(Total\ Unemployment)_{it}b + v_i + e_{it}$. The seventh model, labor force participation rates' effect on five-year-future low-quality private university expansion, relied on a nation level fixed effects model with separate nation year trends: $(Low\ Q\ Private\ Universities)_{it} = a + L(5).(LFP)_{it}b + v_i + e_{it}$. The eighth model, labor force participation rates' effect on ten-year-future low-quality private university expansion, relied on a nation level fixed effects model with separate nation year trends: $(Low\ Q\ Private\ Universities)_{it} = a + L(10).(LFP)_{it}b + v_i + e_{it}$.</p>								

Table 9. Testing the Causality of Low Quality Private University Expansion, Unemployment, and Labor Force Participation Rates. Sources: World Bank Development Indicators and Anabin MENA University Data.

The eight models found only two significant results: 1) that an increase in unemployment at t_0 lowers ten-year-future low-quality private university growth, and 2) that an increase in labor force participation at t_0 lowers five-year-future low-quality private university growth. These results intuitively contradict each other and lend no credence to either causality explanation and leave open the possibilities of the following MENA economic storylines. MENA nations may have misjudged their future labor market demands, over-educated their populations, and created a deep economic skills mismatch. MENA regimes may have educated their citizenry as a means of appeasing societal unrest, and knowingly over-educated their population. Or, MENA university growth may have resulted from MENA's recent population boom. According to the Population Reference Bureau, MENA's population has grown the fastest in the world over the past 60 years, multiplying 3.7 times over— from around 100 to around 380 million— between 1950 and 2000.⁵⁰ MENA institutions and higher education may have rapidly expanded to accommodate booming population. However, in the following statistical analysis, surging population growth plays an inconsistent role in affecting MENA university expansion.

Question 3.3: Did rapid population growth lead MENA nations to expand universities?

MENA Population Growth's Effect on MENA University Expansion									
Dependent Variables →	Universities	Universities	Universities	Private Universities	Private Universities	Private Universities	Low-Quality Private Universities	Low-Quality Private Universities	Low-Quality Private Universities
Independent Variables ↓									
Population	0.462*			0.479**			-0.0880		

⁵⁰ Roudi, Farzaneh. "Population Trends and Challenges in the Middle East and North Africa." Population Trends and Challenges in the Middle East and North Africa. December 2001. Accessed March 03, 2016. <http://www.prb.org/Publications/Reports/2001/PopulationTrendsandChallengesintheMiddleEastandNorthAfrica.aspx>.

Growth	(0.271)			(0.215)			(0.0995)		
Population Growth Lagged 5 Years		0.230			0.302			-0.0898	
		(0.272)			(0.217)			(0.0999)	
Population growth Lagged 10 Years			-1.160***			-0.830***			-0.153
			(0.308)			(0.250)			(0.120)
Observations	153	139	125	153	139	125	153	139	125
R-squared	0.828	0.844	0.879	0.739	0.772	0.827	0.739	0.773	0.810
Number of nationcode	14	14	14	14	14	14	14	14	14
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 \ Data unavailable Sources: World Bank World Development Indicators, Anabin MENA University Data Notes: This first three models display population growth's (at $t_0, t_{.5}, t_{.10}$) effect on MENA total university growth, and relies on a nation level fixed effects model with separate nation year trends: $(\log universities)_{it} = a + (popgrowth)_{it}b + v_i + e_{it}$. Models 4, 5, and 6 display population growth's (at $t_0, t_{.5}, t_{.10}$) effect on MENA private university growth, and relies on a nation level fixed effects model with separate nation year trends: $(\log private universities)_{it} = a + (popgrowth)_{it}b + v_i + e_{it}$. The last three models display population growth's (at $t_0, t_{.5}, t_{.10}$) effect on MENA low-quality private university growth, and relies on a nation level fixed effects model with separate nation year trends: $(\log low-quality private universities)_{it} = a + (popgrowth)_{it}b + v_i + e_{it}$.									

Table 10. MENA Population Growth's Affect on MENA University Expansion. Sources: World Bank Development Indicators and Anabin MENA University Data.

Only population growth in t_0 , population growth in the same year as university expansion, significantly affected university growth. Population growth in t_0 raised the likelihood of university growth at the 90% confidence interval and raised the likelihood of private university growth at the 95% confidence interval. However, population growth at $t_{.5}$ did not significantly affect MENA university growth and population growth at $t_{.10}$ significantly reduced the likelihood of university and private university expansion at the 99% confidence level. Population growth also failed to predict national university privatization policy shifts.

If population growth led MENA nations to expand private universities, we would have seen population growth significantly and positively affect private university growth

at time periods t_0 , t_5 , t_{10} , and before any national privatization policy shifts. Various factors, including transnational education rates, may have proved confounding variables for this analysis. Many MENA states, in particular oil-rich Gulf States, have expanded private universities in an effort to educate their expatriate population and solicit foreign students from the MENA region and the world.⁵¹

Question 4: Did an expansion in private universities expand migration and/or remittance rates?

A National Higher Education Privatization Policy's Effect on Migration or Remittances					
	Percent Migrants	Percent Migrants EU	Percent Migrants Gulf	Percent Migrants OECD	Remittances
Privatization Policy Shift	0.00758 (0.0103)	0.00361 (0.00448)	-0.00419 (0.0111)	0.00203 (0.00465)	0.119 (0.255)
Observations	84	84	84	84	58
Number of nationcode	14	14	14	14	11
R-squared	0.573	0.563	0.083	0.542	0.769
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 \ Data unavailable Sources: World Bank World Development Indicators, Anabin MENA University Data, World Bank Global Bilateral Migration Database Notes: The first model, a nation's privatization policy shift's effect on a nation's percent of migrants, relied on a nation level fixed effects model with separate nation year trends: $(Percent\ Migrants)_{it} = a + (University\ Privatization\ Shift)_{it}b + v_i + e_{it}$. The second model, a nation's privatization policy shift's effect on a nation's percent of migrants in the EU, relied on a nation level fixed effects model with separate nation year trends: $(Percent\ Migrants\ in\ EU)_{it} = a + (University\ Privatization\ Shift)_{it}b + v_i + e_{it}$. The third model, a nation's privatization policy shift's effect on a nation's percent of migrants in gulf nations, relied on a nation level fixed effects model with separate nation year trends: $(Percent\ Migrants\ in\ gulf\ nations)_{it} = a + (University\ Privatization\ Shift)_{it}b + v_i + e_{it}$. The fourth model, a nation's privatization policy shift's effect on a nation's percent of migrants in OECD nations, relied on a nation level fixed effects model with separate nation year trends: $(Percent\ Migrants\ in$					

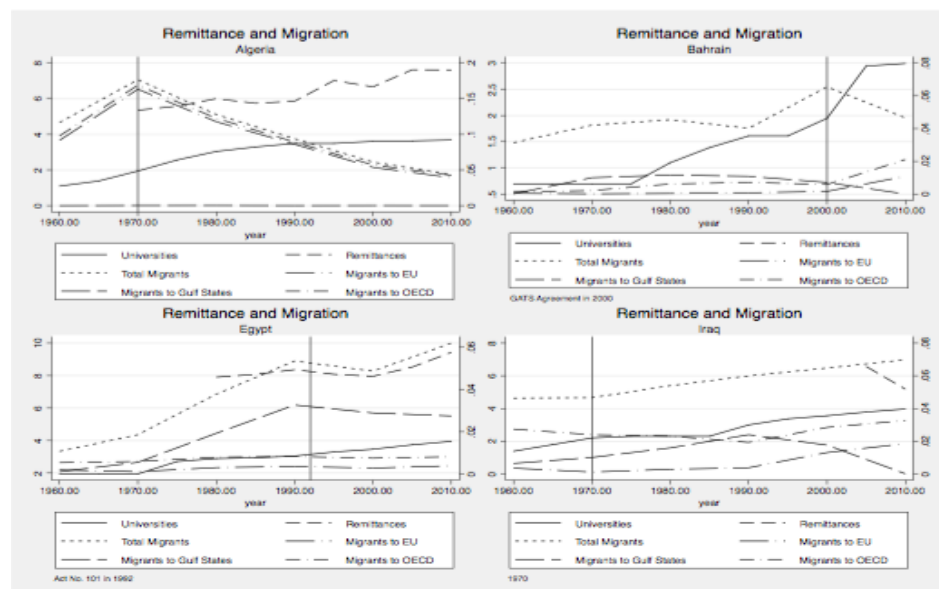
⁵¹ Mcnamara, John, and Jane Knight, Dr. "Transnational Education Data Collection Systems: Awareness, Analysis, Action." DAAD. 2015. Accessed March 20, 2016. 59.
https://www.daad.de/medien/hochschulen/projekte/studienangebote/2015_tnb_study_daad-bc_2_data_collection.pdf.

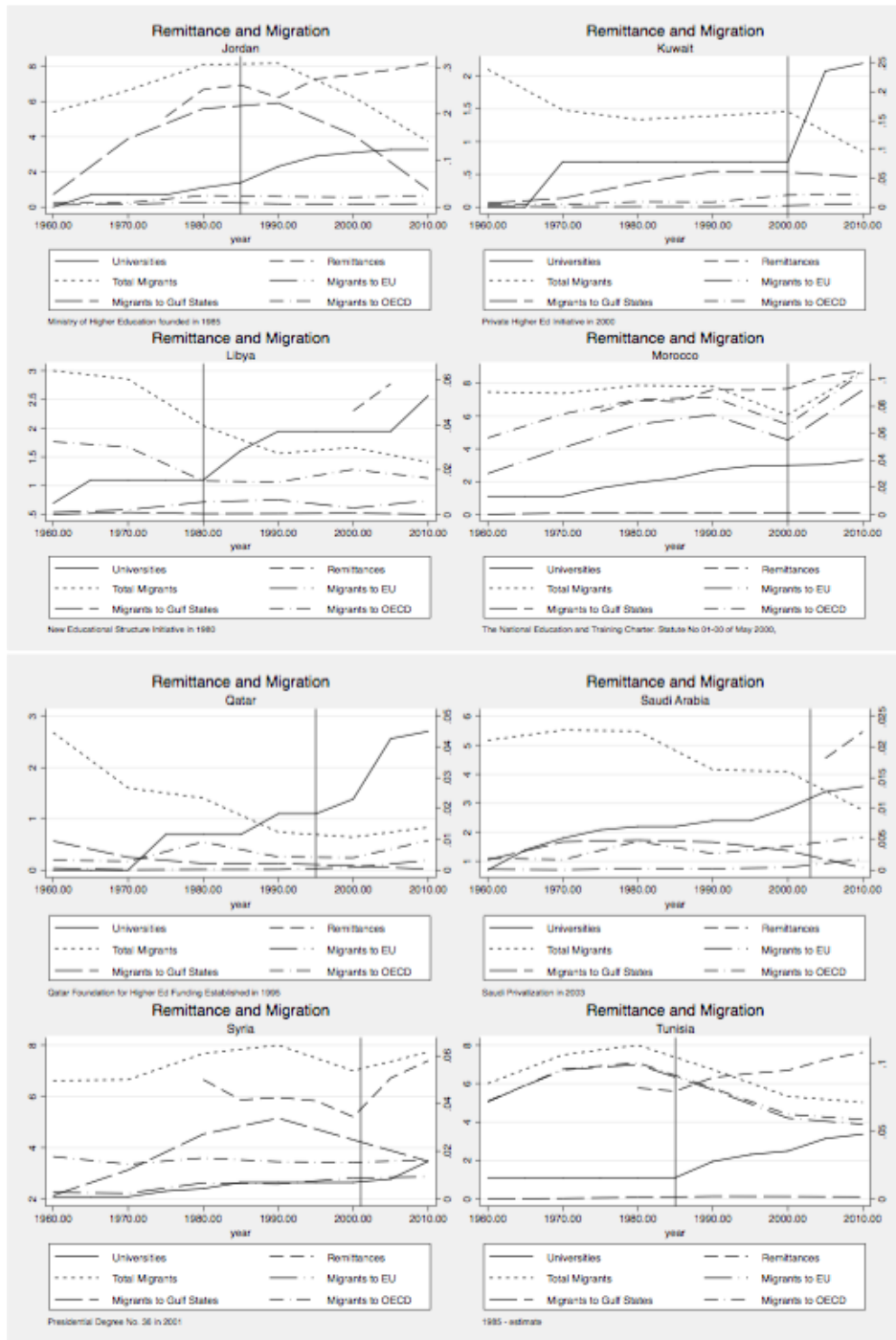
$$OECD\ nations)_{it} = a + (University\ Privatization\ Shift)_{it}b + v_i + e_{it}.$$

The fifth model, a nation's privatization policy shift's effect on a log remittance intake, relied on a nation level fixed effects model with separate nation year trends: $(Log\ Remittance\ Intake)_{it} = a + (University\ Privatization\ Shift)_{it}b + v_i + e_{it}.$

Table 11. A National Higher Education Privatization Policy's Effect on Migration or Remittances. Sources: World Bank Migration Matrix, World Bank Remittance Data, Anabin MENA University Data.

Privatization policy shifts held an insignificant effect on remittance and migration growth on a MENA-wide level. The MENA migration and remittance picture, with respect to the expansion of low-quality private universities, likely proved too complex too draw any MENA-wide conclusions. As seen in the following national time series graphs, individual geo-political events and vastly divergent regional economies led to inconsistent consequences of private university expansion.





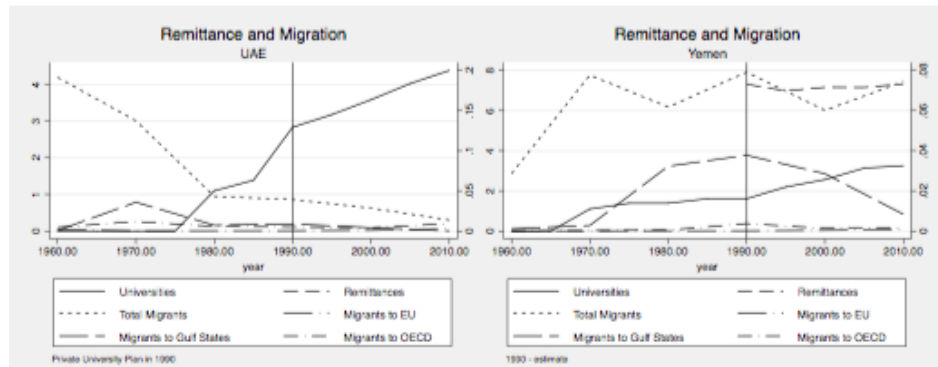


Figure 7. National Migration and Remittance Trends. Sources: World Bank Migration Matrix, World Bank Remittance Data, and Anabin MENA University Data.

The following event studies combine individual national trends of MENA migrants to OECD, EU, and Gulf states based on a T_0 privatization policy shift. It appears that privatization affects regional migration, but the effect's direction depends on confounding national factors. For example, after gaining independence from France, many Algerians fled to their former colonizer, and expansion of their higher education system incentivized many potential migrants to remain in Algeria. However, in Iraq, privatization and expanded university access led to greater migration to OECD and EU nations because highly educated students needed to leave the stagnant state economy in the 1990's to find suitable work.

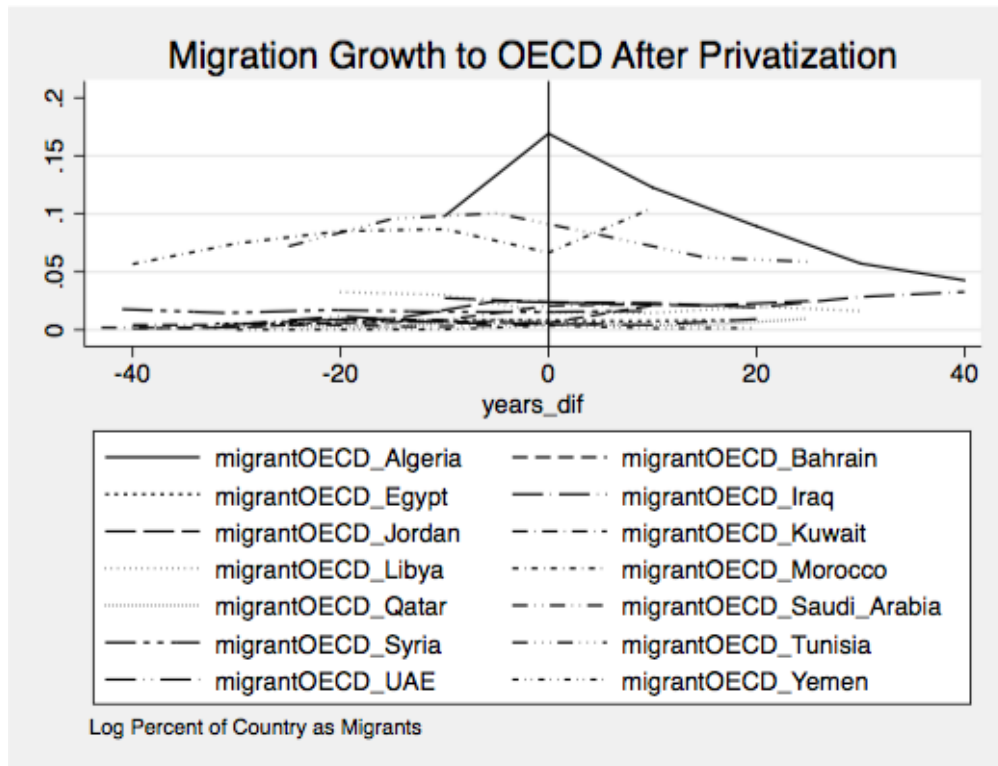


Figure 8. MENA Migration to the OECD Event Study Around University Privatization Policy Shift. Sources: World Bank Migration Matrix, Anabin MENA University Data.

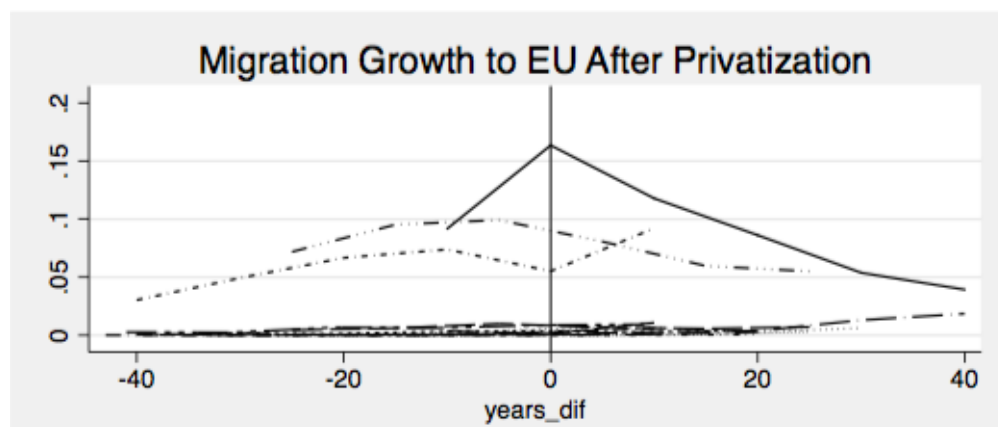


Figure 9. MENA Migration to the EU Event Study Around University Privatization Policy Shift. Sources: World Bank Migration Matrix, Anabin MENA University Data.

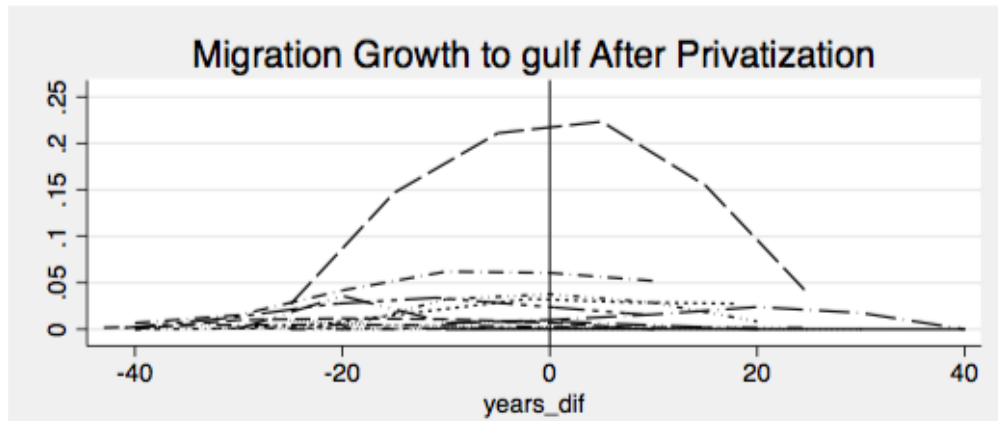


Figure 10. MENA Migration to the Gulf States Event Study Around University Privatization Policy Shift. Sources: World Bank Migration Matrix, Anabin MENA University Data.

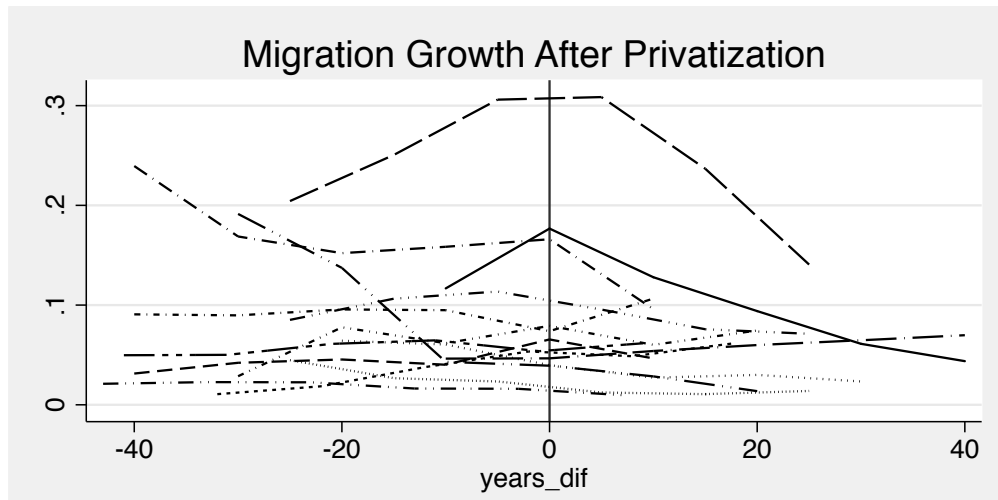


Figure 11. MENA Migration to All States Event Study Around University Privatization Policy Shift. Sources: World Bank Migration Matrix, Anabin MENA University Data.

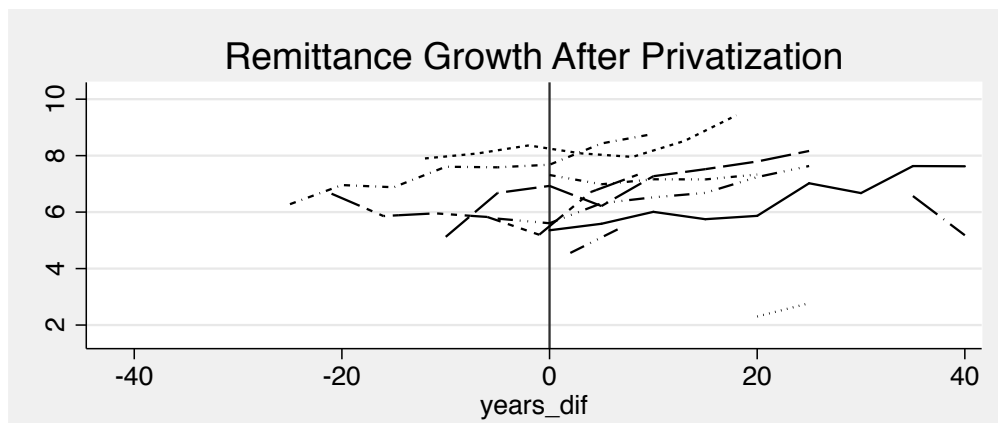


Figure 12. MENA Remittance Data Event Study Around University Privatization Policy Shift. Sources: World Bank Remittance Data, Anabin MENA University Data.

6. Final Discussion

Although constrained by scarce or outdated MENA macroeconomic data and the recentness of the MENA Refugee Crisis, this paper only tested the first four hypotheses using econometric analysis. The final discussion seeks to test the final hypothesis:

A lack of suitable regional labor opportunities for highly educated MENA refugees led highly educated MENA refugees to re-seek asylum in Europe.

MENA nations clearly face anti-refugee and anti-migrant sentiments. Nations like Jordan, Turkey, and Lebanon already struggle with crippling unemployment and low labor force participation rates. Although many MENA countries shied away from accepting refugees and/or migrants early in the Syrian conflict,⁵² the war's escalation and additional conflict in Iraq forced the issue. As of February 2016, over four million Syrian and four million Iraqi refugees have fled their home nations and sought refuge in neighboring MENA nations, and more than 6.6 million Syrians and 3.3 million Iraqis remain internally displaced and in need of assistance.^{53,54} Despite domestic economic troubles and difficult internal politics, Jordan, Turkey, Lebanon, and Egypt stepped up to host the millions of refugees. Because of their domestic constraints, and the possibility of Syrian and Iraqi conflict resolution, MENA refugee host nations rarely integrated Syrian and Iraqi migrants into their economies. In fact, Jordan, Lebanon, and Egypt either

⁵² Malsin, Jared. "Why Some Arab States Refuse to Accept Syrian Refugees." Time. September 8, 2015. Accessed February 10, 2016. <http://time.com/4025187/arab-states-syrian-refugees/>.

⁵³ UNOCHA. "Iraq." United Nations Office of Coordination of Humanitarian Affairs. February 6, 2016. Accessed February 10, 2016. <http://www.unocha.org/iraq>.

⁵⁴ UNOCHA. "Syrian Arab Republic." United Nations Office of Coordination of Humanitarian Affairs. February 6, 2016. Accessed February 10, 2016. <http://www.unocha.org/syria>.

legally ban or effectively ban all refugees from obtaining legal working permits. No official refugee labor legislation exists in Jordan, and a recent ILO study found that “1.7% of Syrian refugees in Jordan have work permits” and “99% of Syrian refugees work outside Jordan’s labour regulations and in the informal economy”.⁵⁵ Any refugee registering with UNHCR in Lebanon for protection must sign a “no-work agreement” that restricts them from ever working in a formal job.⁵⁶ Egypt only grants working permits if a refugee finds an employer to sponsor them and promise that the employer did not overlook any qualified Egyptians in the hiring process.⁵⁷ And, in January of 2016, the Turkish government finally ended the ban on Syrian refugee working permits, allowing refugees to obtain work permits after a 6-month waiting period and limiting the percent of refugees a business can hire to 10%.⁵⁸ Desperate for work, Syrian and Iraqi refugees flooded the informal labor market. Despite legal barriers, skills mismatches, and physical trauma, 27-28% of Syrian refugees enter the Jordanian labor force as compared to 42% of Jordanians.⁵⁹

⁵⁵ ILO Regional Office for Arab States. "Work Permits for Syrian Refugees in Jordan." International Labour Organization. 2015. Accessed February 9, 2016. http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_422478.pdf.

⁵⁶ Bobseine, Haley. "How Lebanon’s Residency Rules Facilitate Abuse of Syrian Refugees." Human Rights Watch. August 2015. Accessed February 09, 2016. <https://www.hrw.org/report/2016/01/12/i-just-wanted-be-treated-person/how-lebanons-residency-rules-facilitate-abuse>.

⁵⁷ Syria Needs Analysis Project. "Legal Status of Individuals Fleeing Syria." Syria Needs Analysis Project. June 2013. Accessed February 9, 2016. http://reliefweb.int/sites/reliefweb.int/files/resources/legal_status_of_individuals_fleeing_syria.pdf.

⁵⁸ Murray, Don. "High Commissioner Welcomes Turkish Work Permits for Syrian Refugees." UNHCR News. January 17, 2016. Accessed February 09, 2016. <http://www.unhcr.org/569ca19c6.html>.

⁵⁹ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 43.

		Jordanian host community			Syrian refugee community outside camp			Zaatari camp		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Total		66	18	42	52	6	28	51	7	27
Highest level of education completed	Never attended school	21	5	9	27	2	10	32	2	10
	No level completed / Elementary	54	5	32	54	4	29	50	5	27
	Basic / Intermediate	71	11	44	50	5	26	51	5	26
	Secondary / Vocational	60	11	35	52	14	32	66	19	39
	College / University	84	48	64	67	26	50	55	41	50
Wealth index tertile	Poorest third	66	14	40	48	5	25	47	6	25
	Middle third	68	18	43	50	4	27	55	7	29
	Richest third	63	23	42	58	8	31	51	9	28

Table 12. Labor Force Participation Rates of Syrians in Jordan. Sources: Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 45

This rapid expansion of the informal worker labor supply curve raised unemployment and rapidly decreased informal sector wages— 25% of Syrians outside of camps and 61% of Syrians in camps make less than Jordan’s foreign worker minimum wage.⁶⁰

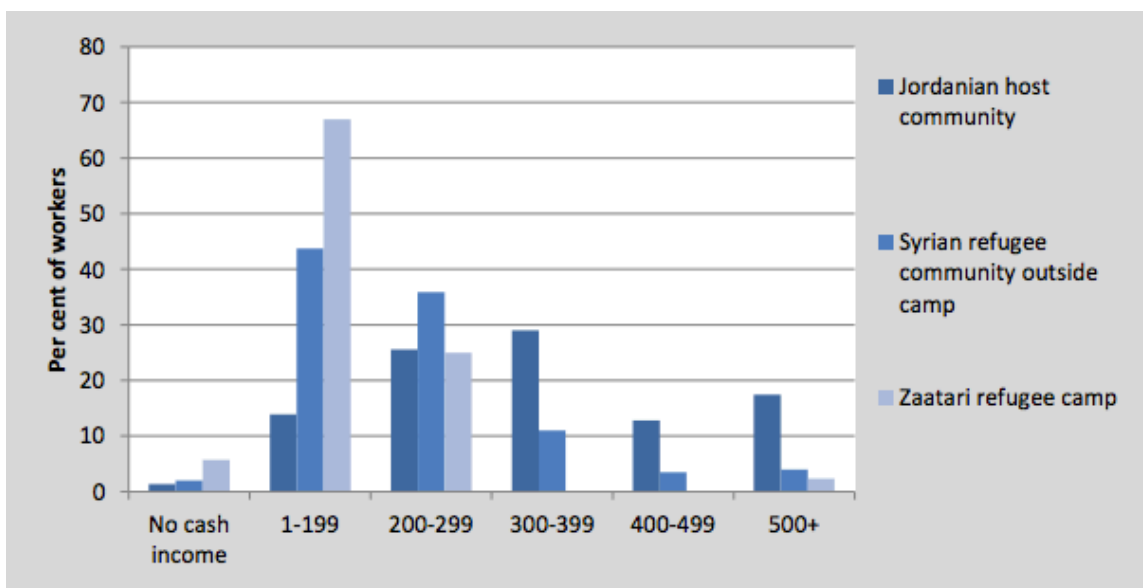


Figure 13. Income Distribution of Syrians in Jordan. Sources: Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 74.

⁶⁰ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 46.

Although college educated and/or vocational trained Syrians had willingly entered the informal labor market at the beginning of the Syrian Civil War and the MENA Refugee Crisis, the ever-lower wages and working conditions combined with the continued conflict in migrant sending nations (Syria, Iraq, etc.) has led high-skilled migrants to seek work outside of their original asylum-granting nations and increasingly flock to more developed economies.⁶¹

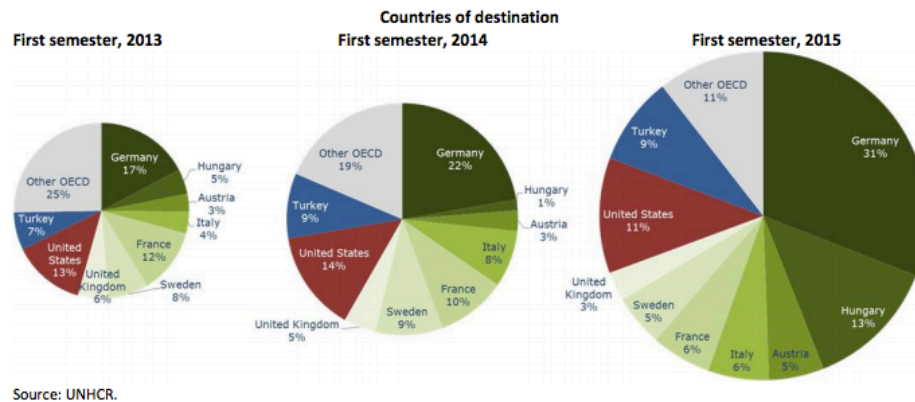


Figure 14. European Receiving Nations for Refugees and Migrants.. Sources: Dumont and Scarpetta. *Migration Policy Debates*. 8.

From a micro-economic approach, one would expect the highest-skilled Syrian and Iraqi refugees to depart MENA refugee camps and MENA refugee centers first—their expectation of higher wages leads them to forgo decreasing informal sector wages before other refugees. Moreover, higher-educated and higher-skilled workers have higher savings than less educated refugees, and can pay the expensive trans-Mediterranean migration fees— often between \$2,000 and \$3,000 to smugglers.⁶²

The limited data on the human capital levels of arriving refugees supports these theoretical explanations. According to Swedish Government Officials, 40% of arriving

⁶¹ Dumont, Jean-Christophe, and Stefano Scarpetta. "Migration Policy Debates." OECD. September 7, 2015. Accessed February 10, 2016. 8. <http://www.oecd.org/migration/Is-this-refugee-crisis-different.pdf>.

⁶² Bodrum, and Tripoli. "Time to Go." *The Economist*. September 26, 2015. Accessed February 09, 2016. <http://www.economist.com/news/middle-east-and-africa/21667953-who-leaving-europe-and-why-time-go>.

Syrians possess at least an upper-secondary education or higher, while as of 2010,^{63, 64} And, according to Germany's Institute of Employment Research, 15% of Syrians refugees possessed a vocational training or university degree as compared to 5.7% of Syrians who had some form of tertiary training (vocational or university degree) in 2010.⁶⁵ European and German businesses have supported the rapid integration of MENA Refugees due to what they perceive as high skill levels. German manufacturing giants Volkswagen, Daimler, and Porsche have openly praised the skill level of incoming refugees, advocated German politicians to open their borders, supported local refugee resettlement, and matched employee refugee donations.⁶⁶ Daimler CEO Dieter Zetsche suggested that "many of those displaced by war, persecution and poverty are highly skilled and motivated, and may be just what the economy needs."⁶⁷

Although the European Refugee Crisis began with high-skilled refugee laborers seeking employment opportunities, high-skilled migration induced a much larger MENA to Europe chain (or network) migration that included many less-skilled refugees. Chain migration occurs when consistent migration waves between two locations alter both areas' livability and increases the cumulative causation of migration.⁶⁸ MENA refugees can lower the cost of migration through sharing best practices, alerting their family and

⁶³ Bodrum and Tripoli. *Time to Go*.

⁶⁴ Barro, Robert, and Jong-Wha Lee. "A New Data Set of Educational Attainment in the World." Educational Attainment Dataset, August 30, 2014. Accessed January 27, 2016. <http://www.barrolee.com/>.

⁶⁵ Delcker, Janosch, and Matthew Karnitschnig. "Refugees Won't Plug German Labor Gap." POLITICO. 2016. Accessed February 10, 2016. <http://www.politico.eu/article/refugees-wont-plug-german-labor-gap-asylum-employment-skills-gap/>.

⁶⁶ Bloomberg. "VW, Daimler, Porsche Embrace Refugees, See Fix to Future Labor Shortages." Automotive News Europe. September 19, 2015. Accessed February 10, 2016. <http://europe.autonews.com/article/20150919/ANE/150919847/vw-daimler-porsche-embrace-refugees-see-fix-to-future-labor-shortages>.

⁶⁷ Bloomberg. *VW, Daimler, Porsche Embrace Refugees, See Fix to Future Labor Shortages*.

⁶⁸ Gallagher, Charles A., and Cameron D. Lippard. *Race and Racism in the United States: An Encyclopedia of the American Mosaic*. Vol. 1. A-E. Santa Barbara: Greenwood, 2014. 222.

friends of the easiest route, or through using European wages to pay for MENA refugees' migration costs. MENA refugees can also lower the effective cost/raise the expected returns of migration by securing European employment from their friends and family before they ever migrate to Europe. In all cases, chain migration lowers the real and/or perceived costs of relocation to Europe, and encourages less-educated MENA refugees to migrate to Europe. Despite chain migration, MENA refugees to Europe remain disproportionately well-educated.⁶⁹

⁶⁹ The following section will elaborate on and cite this claim.

7. Conclusion

Although constrained by scarce MENA macroeconomic data and the recentness of the MENA and European Refugee Crisis, we successfully tested the following hypotheses:

1. *That MENA higher education privatization policies led to a rapid increase in private universities.*

This paper concludes that privatization policies rapidly expanded the total number of universities and especially private universities. A MENA nation's university privatization policy led to a 36% increase in log private universities at the 99% confidence level, with country and time trend effects held constant.

2. *That MENA's rapid expansion of private universities with low accreditation measurements led to lower MENA university quality.*

University privatization did not lower the MENA University Quality Index at a statistically significant level. However, the relative non-existence of private universities before privatization policy shifts limited the regression analysis and results. Through analyzing the data's limitations, general trends, event studies, and other graphical

representation, it remains likely that privatization led to a rapid and disproportionate growth of low-quality universities.⁷⁰

3. That MENA nations that expanded private universities exacerbated the MENA skills mismatch, raised unemployment, and may have lowered labor force participation.

The MENA skills mismatch remains hard to quantify. Pissarides and Véganonès found that—possibly due to a labor market skills mismatch—MENA economies tended to utilize their worker's human capital in a much less efficient way than OECD and/or Eastern European economies.⁷¹ And, as expected in nations with high skills mismatches, MENA nations face much higher unemployment rates and lower labor force participation rates than similarly developed economies.⁷² I feel safe concluding that MENA nations face a greater skills mismatch, especially for highly educated laborers, than their European and/or similarly developed counterparts. And, I conclude that private university expansion likely exaggerated the MENA labor market skills mismatch. Private university expansion raised region-wide unemployment by 6.8% at the 90% confidence level and the specific expansion of low-quality private universities raised region-wide unemployment by 26.3% at the 99% confidence level. Private university expansion had

⁷⁰ In this case, Germany's Anabin Database determined low-quality universities as universities with a H+/- grade or below. The H+/- grade represents universities that lack accreditation from Germany or the host country. H – universities lack accreditation from both Germany and the host country.

⁷¹ Pissarides and Véganonès. *Labor Markets and Economic Growth in the MENA Region*. 7.

⁷² ILO. "World Employment Social Outlook." International Labour Organization. 2015. 19. Accessed February 10, 2016. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_337069.pdf.

no statistically significant effect on regional labor force participation rates, but labor force participation rates trended lower as private MENA universities gained prominence.

4. *That MENA private university expansion greatly varied by nation but led to positive trends in remittance.*

This paper concludes that MENA higher education privatization held an insignificant and highly varied effect on migration growth on a MENA-wide level. MENA private university expansion demonstrated a positive, albeit statistically insignificant, effect on remittance growth. Growing remittances and stagnate migration trends indicate a greater proportion of highly educated migrants left the MENA region to find work in the years preceeding the MENA Refugee Crisis.

5. *That MENA refugee-receiving nations effectively ban refugees from accessing the formal labor market, and employment limitations increase refugee opportunity cost, diminish refugee savings, and eventually spur MENA refugees— especially highly educated MENA refugees— to re-seek asylum in Europe.*

This paper concludes that due to abnormal regional unemployment, especially amongst highly educated workers seeking formal employment, MENA nations surrounding Iraq and Syria could not have survived the political ramification of opening their labor markets.

Jordan	Unemployment	Tertiary Unemployment
2005	NA	24.50

2010	12.50	34.30
Egypt	Unemployment	Tertiary Unemployment
2005	11.20	NA
2010	9.00	39.70
Turkey	Unemployment	Tertiary Unemployment
2005	10.60	11.40
2010	11.90	14.50
Lebanon	Unemployment	Tertiary Unemployment
2005	8.20	21.20
2010	6.20	15.30

Table 13. Labor Statistics in Jordan, Egypt, Lebanon, and Turkey from 1995 to 2010. Source: World Bank Development Indicators. Notes: NA means data not available.

Consequently, Jordan, Lebanon, Egypt, and Turkey (until 2016) all effectively banned the formal employment of MENA refugees and relegated all refugees, regardless of skill level, to informal sectors with ever deteriorating wages and working conditions. Highly skilled MENA refugees, restricted to low-wage MENA informal sectors, rationally began re-seeking asylum in nations outside the MENA region with formal sector job openings— European nations. Germany possesses over one million open jobs on its own.⁷³

I conclude that the MENA to Europe migration surge likely resulted from a lack of formal labor opportunities in MENA refugee host nations and that a disproportionate number of MENA refugees re-seeking asylum in Europe qualify as highly skilled— college or vocational educated. Only 18% of Syrians had completed at least an upper-secondary education in 2010, but 40% of Syrian arrivals in Sweden had completed at least an upper secondary education. While only 5.7% of Syrians in 2010 possessed a tertiary degree, 15% of Syrians in Germany possess a tertiary degree.^{74,75} European industrial leaders have testified as to higher than expected skill levels of arriving

⁷³ Eurostat. *Ob Vacancies in Number and % - NACE Rev. 2, B-S, Quarterly Data*.

⁷⁴ World Bank Global Development Indicators

⁷⁵ Dumont, Jean-Christophe, and Stefano Scarpetta. "Migration Policy Debates." OECD. September 7, 2015. Accessed February 10, 2016. 8. <http://www.oecd.org/migration/Is-this-refugee-crisis-different.pdf>.

refugees⁷⁶. And, MENA to Europe migration remains limited to those who can afford the \$2,000 to \$3,000 trans-Mediterranean smuggler fee— higher-skilled MENA workers likely have higher savings.

⁷⁶ Bloomberg. "VW, Daimler, Porsche Embrace Refugees, See Fix to Future Labor Shortages." Automotive News Europe. September 19, 2015. Accessed February 10, 2016.
<http://europe.autonews.com/article/20150919/ANE/150919847/vw-daimler-porsche-embrace-refugees-see-fix-to-future-labor-shortages>.

8. Ramifications

This paper's findings on MENA refugee migration push factors shine light on several aspects of the MENA and European Refugee Crisis. Most MENA refugees re-seek asylum in Europe for formal labor opportunities, MENA refugees disproportionately possess college degrees, and the quality of MENA refugees' college degrees often falls below Western standards.

First, most MENA refugees clearly re-seek asylum in Europe to work. Syrian families in Jordan dig an average of 25.78 JD (36.61 USD) per month into their savings and still spend less than the Jordanian absolute poverty line of 68 JD (96 USD) per month.⁷⁷ Syrian families can find high-wage work in Europe. Job openings in top EU refugee-receiving nations rose from 2013 to 2015, with increased openings in high-wage careers.⁷⁸ Germany's top three job openings included Electrical Mechanics, Architectural Engineers, and Machinery Mechanics.⁷⁹

Nation	2013Q1	2014Q1	2015Q1	2015Q3
Belgium	85,887	83,059	77,955	98,758
Germany	944,658	1,055,002	1,091,302	1,031,291
Greece	:	15,921	:	12,626
Spain	98,054	78,420	85,499	87,260
Hungary	36,429	37,357	42,332	46,274
Netherlands	96,000	104,800	126,027	129,945
Austria	69,060	63,312	66,794	72,186
Poland	44,010	53,899	74,027	72,863
Finland	44,367	45,747	43,769	21,042
Sweden	73,330	79,718	91,712	70,749
United Kingdom	481,000	593,000	713,000	757,000
Norway	67,300	60,800	58,200	51,300
Total	2,230,281	2,494,073	2,735,227	2,731,035

Table 14. 2013 to 2015 European Job Openings. Sources: Eurostat. *Job Vacancies in Quarterly Data*

⁷⁷ Voon. *Living in the Shadows: Jordan Home Visits Report 2014*, - UNHCR. 29.

⁷⁸ Eurostat. "Ob Vacancies in Number and % - NACE Rev. 2, B-S, Quarterly Data." Eurostat, Fall 2015. Accessed February 10, 2016. <http://ec.europa.eu/eurostat/web/products-datasets/-/tps00172>.

⁷⁹ Blight, Garry, and Sean Clarke. "Europe: Where the Jobs Are." *The Guardian*. May 30, 2012. Accessed March 04, 2016. <http://www.theguardian.com/world/interactive/2012/may/30/europe-eu-jobs>.

And, according to industry representatives like Daimler CEO Dieter Zetsche, “many of those displaced by war, persecution and poverty are highly skilled and motivated, and may be just what the economy needs.”⁸⁰

Second, MENA refugees possess higher than average education levels. Syrian refugees in Jordan possess higher education levels than the average Syrian,⁸¹ and MENA refugees in Europe hold two to three times more secondary or higher education degrees. 18% of Syrians had completed at least an upper-secondary education in 2010, and 40% of Syrian arrivals in Sweden had completed at least an upper secondary education. While only 5.7% of Syrians in 2010 possessed a tertiary degree, 15% of Syrians in Germany possess a tertiary degree.^{82,83} MENA refugees in Europe also possess higher than average savings, as the cheapest Turkey-to-Greece migration route remains above \$2,000.

Lastly, although Syrian refugees to Europe possess higher education and skill levels than Syrians remaining in Syria or MENA refugee-receiving nations, their skill levels and education levels don’t always translate to European standards. Comparative education studies find that primary and secondary MENA education lags behind European standards. According to the OECD, an eighth grader in Syria shared a similar education level to a third grade German.⁸⁴ Moreover, at least one third of Syrian college graduates attended universities that earned low quality marks— the university either lacked university accreditation in the host country or in Germany.⁸⁵ Only 2.0% of Syrians held university degrees in 2000, and Syrian higher education growth to 2.6% of the

⁸⁰ Bloomberg. *VW, Daimler, Porsche Embrace Refugees, See Fix to Future Labor Shortages*.

⁸¹ Hillesund and Stave. *Impact of Syrian Refugees on the Jordanian Labour Market*. 38.

⁸² World Bank Global Development Indicators

⁸³ Dumont, Jean-Christophe, and Stefano Scarpetta. "Migration Policy Debates." OECD. September 7, 2015. Accessed February 10, 2016. 8. <http://www.oecd.org/migration/Is-this-refugee-crisis-different.pdf>.

⁸⁴ Delcker and Karnitschnig. *Refugees Won't Plug German Labor Gap*.

⁸⁵ Based on Germany’s internationally recognized Anabin University Database

population by 2010 depended almost solely on the growth of Syrian low-quality private institutions.

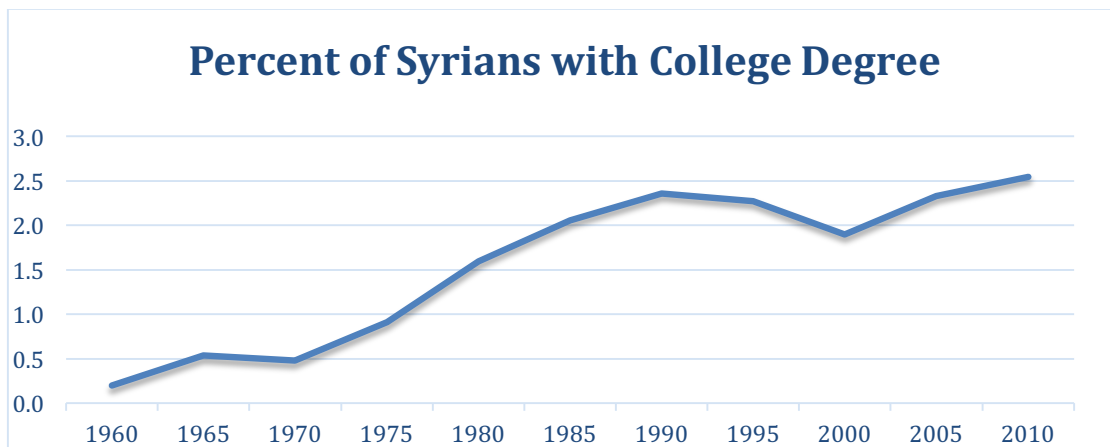


Figure 15. Percentage of Syrians with College Degrees from 1960 to 2010. Sources: Barro-Lee Educational Attainment Database- Tertiary Education Completion in Syria

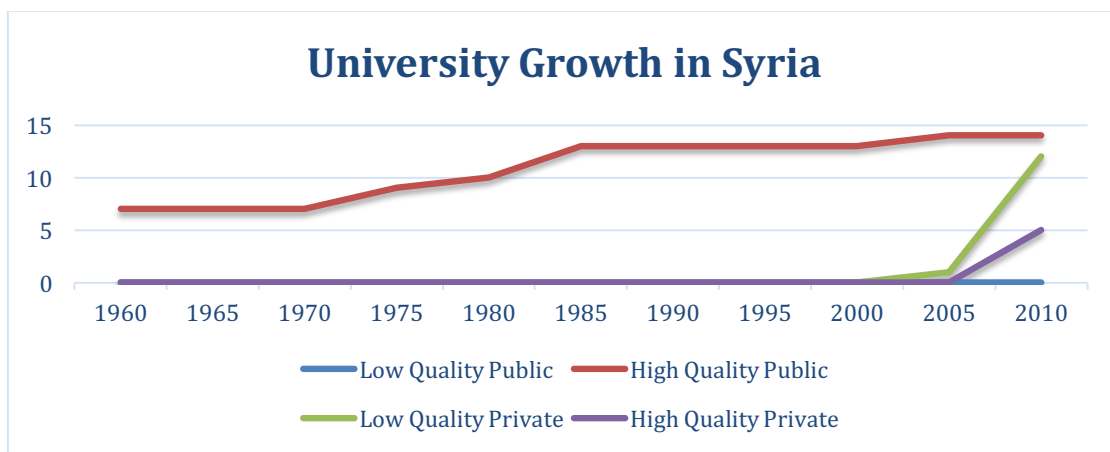


Figure 16. University Growth in Syria from 1960 to 2010. Sources: Anabin MENA University Data.

More than just low quality higher educations, many education experts share concerns over the MENA educational system's public sector orientation.⁸⁶ Large, oversaturated public sectors steer higher education incentives to train bright MENA students towards stagnant public sector jobs instead of dynamic private-sector jobs. Total Factor Productivity (TFP)— the amount of a laborers' output not explained by their human capital inputs and a measure of human capital usage efficiency in production—

⁸⁶ Bhattacharya, Rina, and Hirut Wolde. Constraints on Growth in the MENA Region. Washington, DC: International Monetary Fund (IMF), 2010. 5.

trended lower in MENA nations than in OECD or Eastern European nations “due to the fact that human capital in MENA has suffered either from low quality or from a misallocation that diverted it from employment in growth-enhancing activities.”^{87,88}

⁸⁷ Pissarides and Véganzone. *Labor Markets and Economic Growth in the MENA Region*. 8.

⁸⁸ Pissarides, Christopher, and Marie Véganzone. "Labor Markets and Economic Growth in the MENA Region." London School of Economics Pissarides Papers. January 2005. Accessed February 10, 2016. 7. <http://personal.lse.ac.uk/pissarid/papers/MAVJan05.pdf>.

9. Recommendations

1. MENA refugee-receiving nations should respect refugees' human rights and remove barriers to refugee formal employment.
2. The international community should refuse to fund MENA refugee-receiving nations or repatriate MENA refugees to MENA refugee-receiving nations that implement refugee employment barriers.
3. MENA nations should implement greater university accreditation standards in an effort to weed out low-quality universities, improve educational standards at low-quality universities, and stem the over-production of MENA college graduates.
4. MENA nations should reduce the size of public sectors and eliminate faulty labor market incentives that encourage far too many MENA residents to attend university.
5. MENA nations should further private sector growth, and improve the entrepreneurial environment to foster a dynamic market economy that can utilize and employ the incoming refugee labor force.
6. The international community should treat Syrian or Iraqi refugees with low-quality higher education or vocational degrees from one of Syria or Iraq's 12 and 20 low quality private universities—around 38% of national universities in both nations⁸⁹— as partial college graduates, who could easily become qualified degree-holders through supplementary or translational coursework.

⁸⁹ Data gathered from Anabin University Database.

10. Further Research

This paper's findings encourage further research on private university quality in the MENA region, the MENA labor market skills mismatch, misaligned incentives in the MENA university attendance decision-making process, employment restrictions on MENA refugees in MENA refugee-receiving nations, whether to discuss MENA refugees migrating to Europe as "re-seeking" asylum, whether European nations should accept MENA refugees re-seeking asylum for employment rights, the human capital of MENA refugees re-seeking asylum in Europe, and strategies for integrating MENA refugees into the European economy.

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